Northgate
EXPLORATION LIMITED

ANNUAL REPORT 1981

NORTHGATE EXPLORATION LIMITED is a diversified, mineral resource-based organization with interest worldwide. It is involved directly, through subsidiary or associated corporations, and through equity interests, in

- **MINING**

  Base and precious metals

  - Copper Rand, Portage Island and Lemoine mines, Chibougamau, Canada
  - Tynagh Mine, Ireland
  - Haveluck Mine, Australia
  - Tara Mine, Ireland
  - Vestgron Mine, Greenland

- **EXPLORATION AND DEVELOPMENT**

  For minerals and oil and gas in Canada, the United States, Ireland, Spain, Australia and Fiji

- **OIL AND GAS PRODUCTION**

  In the United States and Canada

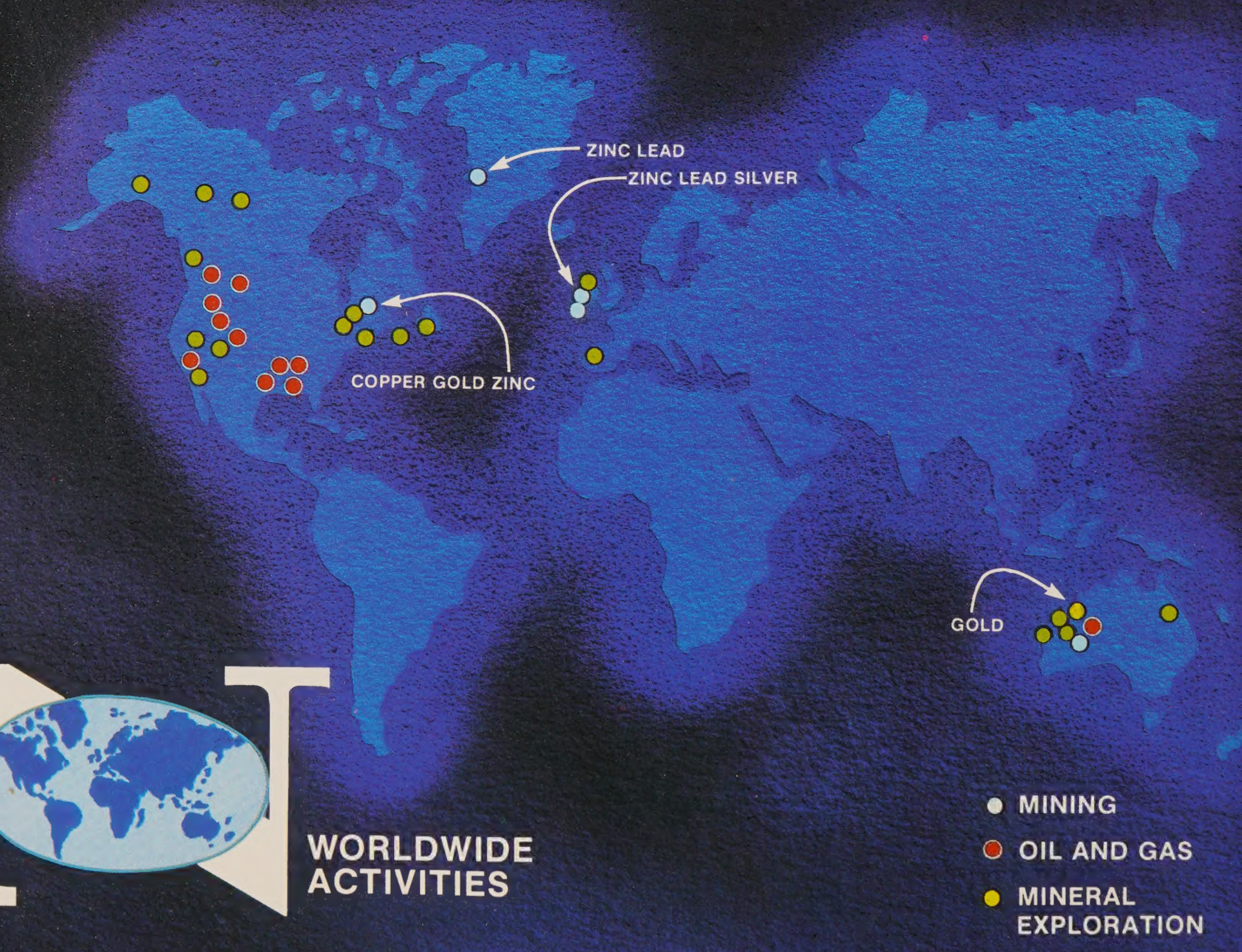
- **RESOURCE INVESTMENTS**

  Associated corporations:

  - Anglo United Development Corporation Limited (35%)
  - Consolidated Orofino Resources Limited (15% + option on 11%
  - Westfield Minerals Limited (45%)
  - Whim Creek Consolidated N.L. (30% direct, 7% indirect)

  Investments:

  - Tara Exploration and Development Company Limited (9.8%)
  - Vestgron Mines Limited (5.2% direct, 2.9% indirect)
  - Brascan Limited (6% indirect)



WORLDWIDE ACTIVITIES

1981 Highlights

- Northgate acquired the Copper Rand, Portage and Lemoine base and precious metal producing mines in the Chibougamau area of Quebec.
- Oil and gas exploration was accelerated in the United States. Fifty-two wells are on production.
- The focus of mineral exploration shifted to the newly acquired Quebec properties whilst in Ireland a major new joint venture intensified the search for new mines.

Financial Highlights

(expressed in thousands of Canadian dollars except for share data)

	1981	1980	1979
Revenue — metal production	$ 27,626	$30,985	$58,864
— investment income	$ 7,089	$ 7,011	$ 3,489
Net income (loss)	$ (4,088)	$ 3,800	$ 9,550
Per share — basic	$ (0.55)	$ 0.54	$ 1.39
— fully diluted	$ (0.55)	$ 0.54	$ 1.33
At Year-End			
Working capital	$ 12,682	$34,887	$31,643
Shareholders' equity	$ 63,154	$62,946	$56,863
Investments	$ 49,589	$20,700	$19,583
Property, plant and equipment (net)	$103,068	$ 7,675	$ 5,453
Long term debt	$ 94,290	—	—

Production Highlights

	1981 (1)	1980 (2)	1979 (3)
Tons of ore treated	420,686	360,878	545,583
Concentrates — tons of production			
Copper	24,396	1,440	2,945
Zinc	3,927	17,244	31,079
Bulk	3,780	3,657	6,012
Lead	—	19,335	31,071
	32,103	41,676	71,107
Payable metals contained in concentrates sold			
Copper — millions of lbs	9.0	1.8	2.0
Lead — millions of lbs	7.9	31.6	51.0
Zinc — millions of lbs	3.1	18.2	27.7
Gold — thousands of ozs	13.4		
Silver — thousands of ozs	281	495	746

(1) Chibougamau 4 months, Tynagh 12 months (2) Tynagh 7 months (3) Tynagh 10 months

Contents

1982 Annual Meeting of Shareholders

The 1982 Annual Meeting of Shareholders will be held on May 12, 1982 in the Royal York Hotel, Toronto at 11.00 a.m.

COVER: Newly discovered high grade copper-gold ore from 3,650-ft. level of Northgate's Portage Island mine, Chibougamau, Quebec, Canada.

NORTHGATE EXPLORATION LIMITED

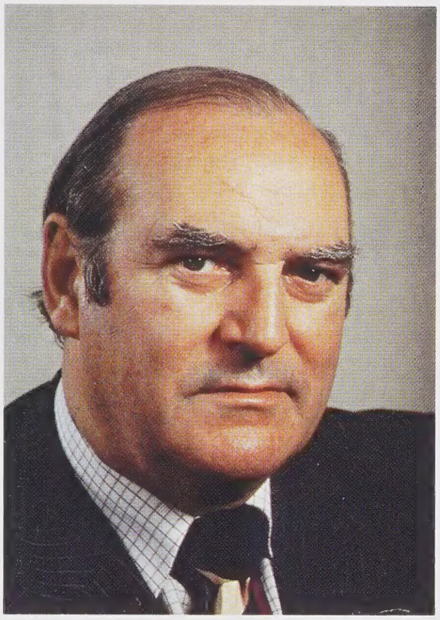
BOARD OF DIRECTORS

G. Warren Armstrong Toronto, Canada President The Coniagas Mines Limited	Sylvester P. Boland (2)(4) Dublin, Ireland Executive Vice-President Northgate Exploration Limited	Jerome C. Byrne (4) Toronto, Canada Chairman of the Board Rayrock Resources Limited
Duncan R. Derry Toronto, Canada President, Duncan R. Derry Limited Consulting Geologists	John G. Dunlap Ottawa, Canada Barrister and Solicitor Partner, Dunlap & Associates	Robert E. Fasken Toronto, Canada Chairman of the Board Camflo Mines Limited
F. Douglas Gibson (1) Toronto, Canada Barrister and Solicitor Partner, Fasken & Calvin	A. Garfield Heyes (4) Toronto, Canada Consultant Northgate Exploration Limited	Patrick J. Hughes (1)(3) Dublin, Ireland Chairman of the Board Northgate Exploration Limited
John F. Kearney (2) Toronto, Canada Executive Vice-President Northgate Exploration Limited	John Kostuik (1)(2) Toronto, Canada Director and Consultant Denison Mines Limited	Alan R. B. Lowe Toronto, Canada President Anglo United Development Corporation Limited

(1) Member of Audit Committee
(2) Member of Executive Committee
(3) Ex-Officio Member of Executive Committee
(4) Member of Pension Committee

OFFICERS AND CORPORATE MANAGEMENT

Patrick J. Hughes Chairman, President and Chief Executive Officer	Sylvester P. Boland Executive Vice-President and Chief Financial Officer	John F. Kearney Executive Vice-President and Secretary
Matthew Gilroy Vice-President	Joseph V. McParland Vice-President	Peter McAleer Vice-President
C. J. Cunningham-Dunlop Vice-President of Operations	A. H. Meldrum Vice-President of Exploration	P. D. Downey Controller
Pierre Boudreault General Manager, Quebec Mines	T. M. Crandell General Manager, Operations	David Naylor General Manager, Oil and Gas Exploration
Norah J. Allman Manager of Corporate Affairs	W. W. Weber Manager of Exploration	Gerald Harper Chief Geologist
D. H. B. Fitzgerald Mine Manager — Tynagh Mine	D. J. Coyle Controller — Ireland	René Steiger Chief Geologist — Europe



Patrick J. Hughes
Chairman of the Board

REPORT TO SHAREHOLDERS

The year 1981 was clearly one of marked achievement for your Corporation.

It was highlighted by the acquisition on September 17th of three operating mines in the Chibougamau area of Quebec, Canada, which are established substantial producers of copper, gold, silver and zinc.

It is recognized that this achievement was not immediately reflected in improved financial performance as results for 1981 reflected in large part the industry-wide impact of lower metal prices, together with Northgate's particular financial vacuum resulting from the termination in mid-1980 of underground mining operations at the Tynagh Mine and the related loss of a source of substantial income.

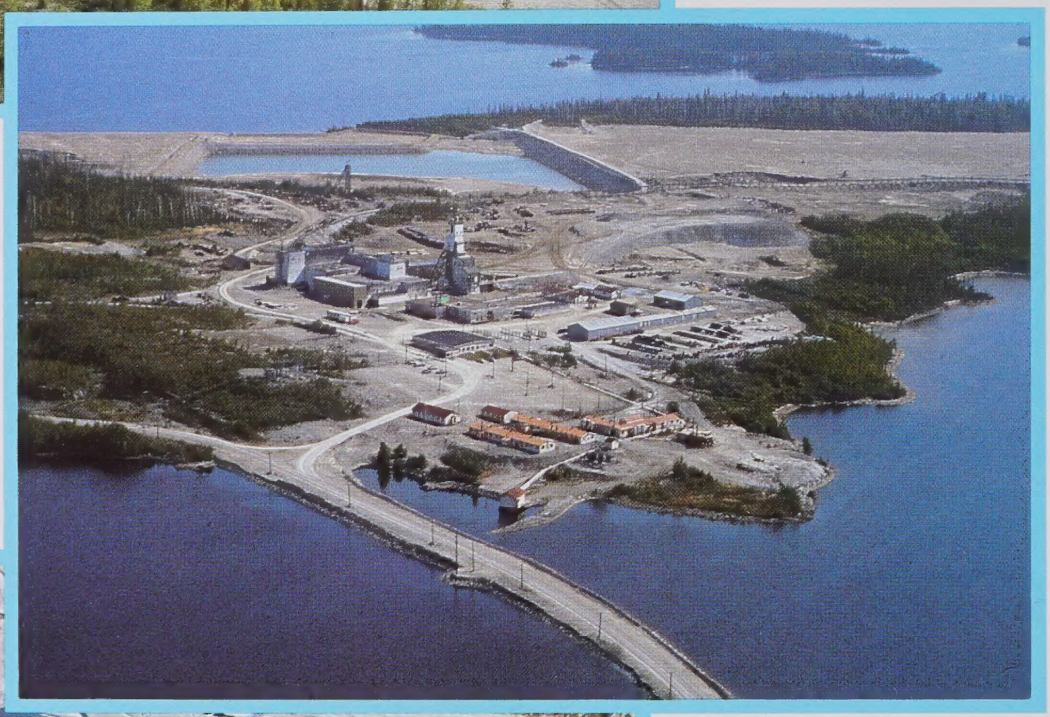
The purchase marked the achievement of one of Northgate's key objectives, namely the acquisition of a substantial revenue producing asset, with potential for development, and a significant operating base in the Canadian mining industry.

The new acquisition not only fills the void in the loss of revenue from the Tynagh Mine's profitable underground mining operation, but adds an important and greater new dimension to Northgate's 20-year involvement in the minerals resource and natural energy sectors.

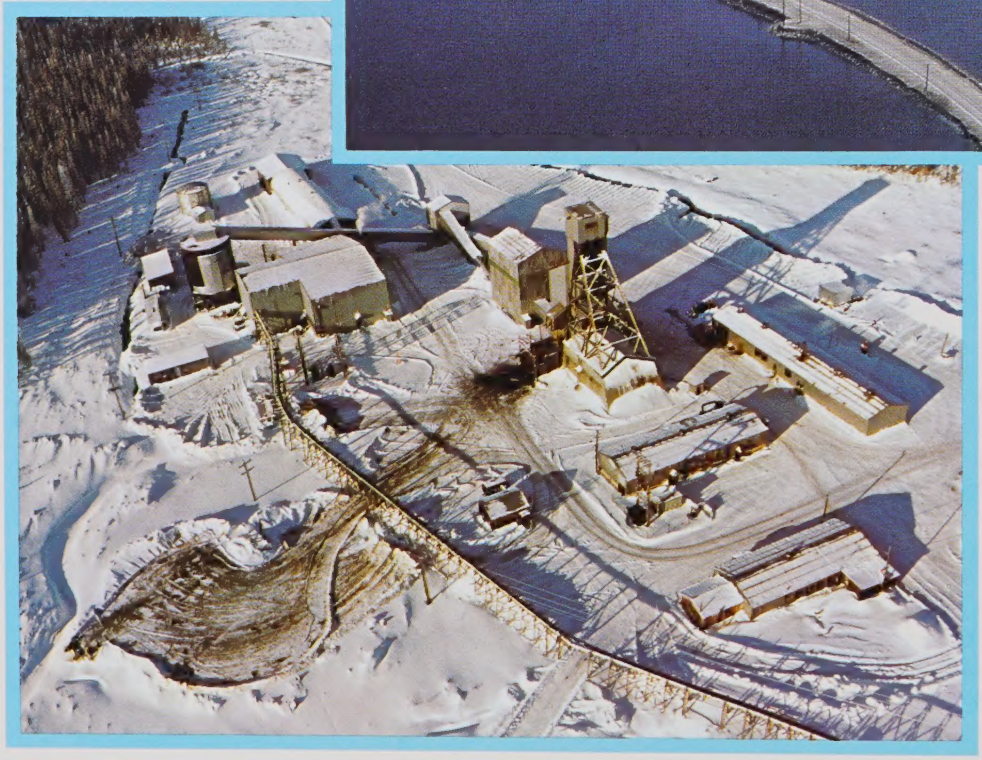
The acquisition by Northgate from Patiño N.V. of The Netherlands, the outcome of protracted, intense and certainly highly competitive negotiations, includes, as its focal point, the Copper Rand, Portage Island and Lemoine mines and their ore treatment facilities, together with other mineral resource properties, including some former area producers, all with excellent exploration potential.

The successful completion of this major acquisition was accomplished by a series of complex transactions, the net effect of which was the purchase by Northgate of the mining assets at an assigned cost of approximately $85 million, and a 6% indirect interest in Brascan Limited for approximately $29 million.

The Portage Island Mine alongside is currently under active depth development to double production to 1,000 tons daily by 1983.



The Copper Rand Mine, which has already produced some 10 million tons of ore, is also undergoing expansion. The 3,400 TPD milling complex is to the left of the main production shaft.



The Lemoine mine was discovered in 1973, commenced production in 1975 and has produced a remarkable 107 million lbs. of zinc, 76,000 ozs. of gold, 1.3 million ozs. of silver and 59 million lbs. of copper.

The initial transaction on September 17, 1981 involved the purchase of Patiño's Canadian based subsidiary, Patiño Mining Investments Limited for $149 million, net of adjustments. In addition to the three operating mines, former producers and the mineral properties, the purchased assets included a 34% shareholding in Edper Equities Limited which, in turn, holds a 49% interest in Brascan Limited.

This acquisition was financed by the utilization of $20.5 million of Northgate's cash resources, a long term bank loan of $43.5 million and a short term loan of $85 million.

Subsequently, Northgate exercised an option granted to it as part of the initial transaction, to sell to Patiño N.V. the 34% interest in Edper Equities Limited, for the sum of $87.9 million (US$74.1 million). This sale was completed on January 11, 1982 and the proceeds received were applied to reduce Northgate's short term bank indebtedness.

In a further transaction in November, 1981, Northgate purchased a 35% interest in Patiño Mining N.V. from Patiño Antilles N.V. for $29 million. Patiño Mining N.V. is a private corporation owning 95% of Patiño N.V. whose principal asset since January 11, 1982 is the 34% shareholding in Edper Equities. This purchase was financed by a long term bank loan of $29 million.

It was both surprising and fortuitous to find an asset of this calibre being offered for acquisition. The Chibougamau mines and related assets became available for purchase because of the desire of the Patiño family, and the major shareholders, to liquidate and divide their Canadian assets. It was with regret that shortly following the conclusion of these transactions we learned of the death, at age 86, of Antenor Patiño R., the senior member of the Patiño family and Honorary Chairman of Patiño N.V., on February 2, 1982.

The negotiations for this substantial asset, the centrepiece of which was the three mines and related facilities, attracted aggressive competition which included some of the major Canadian mining organizations. It can be perceived that the ability of your Corporation to accommodate the specific and unusual circumstances involved in this purchase, undoubtedly contributed to its successful conclusion.

We believe that the Chibougamau area mines, with their excellent diversification of base and precious metals and well defined substantial ore reserve inventory, as well as the considerable scope for the discovery and development of additional reserves, represents a valuable asset for Northgate, at a cost substantially below replacement value.

The mines included in this acquisition have a combined cumulative production over the past 22 years of:

645 million lbs. of copper
785,218 ozs. of gold
4,218,230 ozs. of silver
107 million lbs. of zinc

This impressive metal production came from the treatment of 15.8 million tons of ore, the major portion of which came from the Copper Rand and Portage Island Mines, both of which came into production in 1960.

Notwithstanding this prodigious production, the well established reserves at these two mines, alone, totalled some 7.5 million tons at the beginning of 1982. This is the highest ever ore reserve in the more than two decades of operation of the mines and, far from nearing exhaustion, there is a high probability of discovering substantially greater additional reserves in areas both adjacent to and below current mining operations.

It should be noted that stated ore reserve calculations are limited to the developed areas of the mine, consisting of 'proven' and 'probable' categories, and include a dilution allowance. The 7.5 million tons for the Copper Rand and Portage Island Mines are calculated to a depth of 3,300 feet. The Portage Island Mine has underground workings extending to a depth of 3,920 feet.

In respect of both mines, underground development and/or underground diamond drilling below the current working levels have already provided impressive indications of continuity.

Northgate Patino Mines Inc.

This is a wholly owned subsidiary of Northgate, incorporated in Quebec to acquire and operate the Chibougamau mines and the other mineral resource properties held in this area, formerly operated by Patiño Mines (Quebec) Limited and Lemoine Mines Limited, including the former producers, Copper Cliff, Jaculet and Bateman Bay Mines.

Adjacent to the Copper Rand Mine is the milling complex which treats ore from both Copper Rand and Portage Island and can efficiently operate at a rate of 3,400 tons per day. Its operative capacity will be expanded with the addition of another ball mill, and with other modifications and additions to the flotation circuit to accommodate increased ore deliveries.

The mill is currently operating on a five day week basis which, if extended to the full seven day week rate, would provide a treatment capacity of approximately 1.2 million tons, even without these additions.

The Lemoine Mine has a separate milling complex. It has a design capacity of 400 tons per day. While all currently known ore at the Lemoine Mine is expected to be mined out during September, 1982, the existence of this facility and the extensive ground holdings in the area, provide a great incentive for intensified work to find and develop new deposits in the general proximity.

Northgate has initiated a substantial exploration program in the vicinity of the Lemoine mine in a determined effort to extend the life of the mine.

Economic Considerations

It is recognized that in the short term at least, the prospects for significant profit margins are masked by the current and unusually depressed level of metal prices. At the time of the acquisition we anticipated that metal prices would begin to improve in early 1982 with a turnaround in the world economy. It now looks like this will not occur until the end of 1982 at the earliest. And while few, if any, of the major producers of base and precious metals will hazard a forecast of prices for the second half of 1982 and into 1983, there is a growing consensus that when the price recoveries come, they will likely be both rapid and extensive.

It is interesting to note the ability of the Chibougamau Mines to generate substantial cash flow in periods of better metal prices.

In 1979, gross revenue from metal sales amounted to $68.5 million and after deducting costs for shipping, smelting, refining, mining and milling, together with administrative costs, resulted in funds from operations totalling $20.5 million.

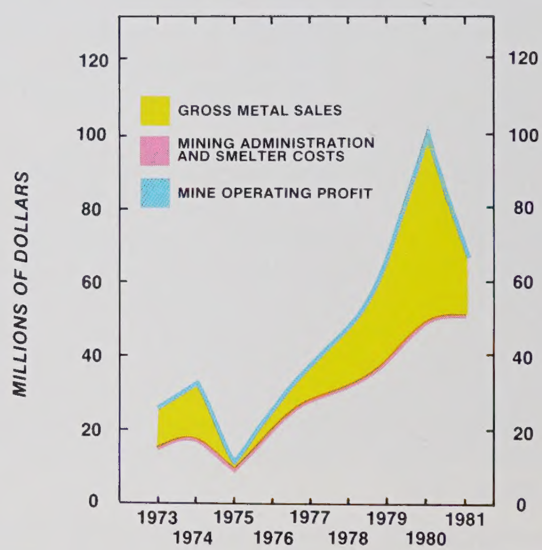
In 1980, gross revenue from metal sales amounted to $100.3 million and after the same deductions resulted in funds from mining operations of $52.3 million. Similarly, the results for the full twelve months of 1981, heavily weighted to the first half of the year when metal prices were buoyant, (only the last four months when lower metal prices prevailed are included in Northgate's consolidated financial statements), showed gross revenue from metal sales valued at $67.0 million and funds from mining operations $17.3 million.

The average metal prices received (Canadian funds) from metal sales in each of the years 1979-81 are as follows:

	Copper per lb.	Gold per oz.	Silver per oz.	Zinc per lb.
1979	$1.023	$352.93	$12.28	$0.417
1980	$1.132	$721.55	$24.40	$0.420
1981	$0.932	$559.62	$13.01	$0.520

Unlike the 'straight' copper producing mines with generally only modest by-product recovery of gold and silver, your Corporation's Chibougamau mines produce substantial quantities of these precious metals, which in recent years have had a significant positive impact on total mine operating financial results.

COPPER RAND, PORTAGE ISLAND AND LEMOINE MINES HISTORICAL METAL SALES AND COSTS 1973-1981



The two most important metals in terms of revenue and earnings for the Chibougamau mines in recent years were copper and gold.

In 1979, the value of gold content was about $30 per ton of ore and this metal accounted for some 34% of the gross metal sales, with copper contributing about 49%. In 1980, the average value of gold per ton was about $55 accounting for approximately 45% of total metal sales and copper about 38%.

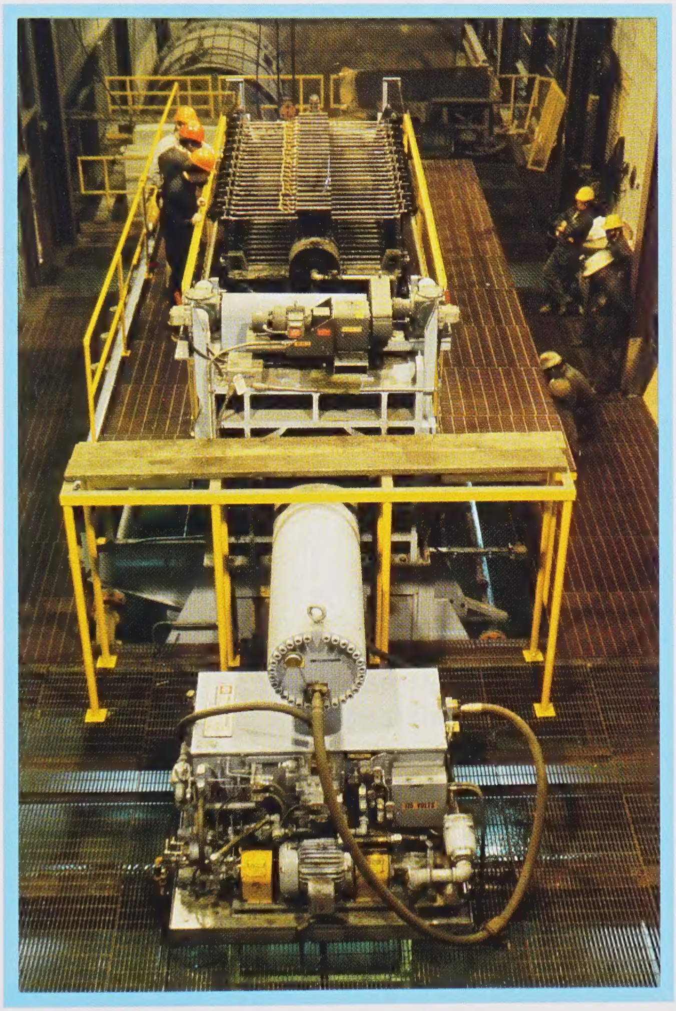
In 1981, the content of gold per ton was worth around $35 and accounted for some 45% of total metal sales while copper climbed to about 41% in the total value of metals contained in concentrate sold.

This is in sharp contrast to the earlier years of operation when gold was priced at $35 per oz. and the value per ton of ore was probably about $2.50. Copper, of course, was the major component of the revenue from metal sales.

The important fact is that the Chibougamau mines obtain a very significant revenue from the gold produced which is an important supplement to revenues obtained from copper, silver and zinc.

Your Corporation is clearly uniquely poised to maximize the opportunities predictably ahead, not only in relation to its recently acquired Chibougamau area producing mines, but also in respect of other partially defined 'in-situ' mineral inventory resources for which production planning is either under consideration or at an advanced stage of completion, and contemplated to be implemented at an appropriate level of metal prices.

New Lasta pressure filter installed in the Copper Rand mill in December 1981.



These include the two Ontario gold properties, the Orofino Joint Venture and the Scadding Twp. project, both the subject of intensive exploration during 1980-81, and each with modest but comparatively good grade defined and/or drill indicated tonnages which can be advanced to production with a minimum of lead time, and Whim Creek's Cork Tree Well gold property at Laverton, Western Australia where Northgate has the right to earn a 35% interest.

Production Planning and Expansion

Your Corporation has specific plans for progressive increases in production from the Chibougamau mines and is currently escalating exploration and development to enhance the revenue base from its mining operations.

Targeted mine production for 1982 is 919,100 tons, an increase of some 10% from the 1981 total. Payable metal in concentrates produced is expected to amount to about 32 million lbs. of copper, 53,000 ozs. of gold, 248,000 ozs. of silver and close to 10 million lbs. of zinc.

Individually, Copper Rand will provide 652,000 tons, Portage Island 181,500 tons and Lemoine 85,600 tons. The comparative figures for 1981 were 622,786 tons, 116,593 tons and 93,699 tons, respectively.

Overall production from Copper Rand and Portage Island is scheduled for successive increases to reach the target level of 1,100,000 tons annually by 1984.

The major portion of the percentage increase from these two mines in future years will be provided by the Portage Island Mine, which averaged 319 tons per day in 1981. At the end of the year the rate was increased to 500 tons.

The 500 tons per day rate is expected to be increased in 1982 and to reach 1,000 tons daily by 1983. As already mentioned, increases to treatment capacity at the main Copper Rand mill are being geared to accommodate the greater production.

Other Corporate Activities

Exploration and development work, including feasibility studies for the more advanced non-producing mineral properties, will be maintained during 1982 both in Ireland and Canada.

The major thrust of Corporation-financed exploration during 1982 will be the Chibougamau area properties which provide compelling attraction. In Ireland, we have the benefit of the joint venture agreement reached with Getty Oil in mid-1981 whereby Getty, by the expenditure of US$6.1 million, can earn a 50% interest in your Corporation's prospecting licences covering Carboniferous areas and a 30% interest in pre-Carboniferous ground.

Oil and gas will remain an important feature of your Corporation's 1982 activities. Northgate is now in the fourth year of the five year $15 million oil and gas exploration and development program with Mission Oil & Gas Limited of Calgary as well as through Mission's U.S. subsidiary, Mission Resources Inc.

The number of producing oil and gas wells in which your Corporation is participating is mounting steadily and this rate of growth is expected to gain even greater momentum during the next few years. Our investments in oil and gas to the end of 1981 total some $7.2 million and a further $3 million has been allocated in each of 1982 and 1983.

Financial Results and Outlook

Deteriorating world economic conditions severely reduced the consumption of metals and resulted in a significant decline in metal prices during 1981.

Consolidated loss for the year ended December 31, 1981, amounted to $4,088,000 equal to 55¢ per share compared with a consolidated net income of $3,800,000 or 54¢ per share for the year 1980.

Working capital declined by $22.2 million to $12.7 million at year end, principally because of the utilization of $20.5 million of internal cash resources to finance in part the acquisition of the mining operations in Chibougamau. The balance of the purchase price was financed through bank lines of credit.

Understandably your Corporation has assumed debt obligations in this acquisition, which is the obvious and necessary equation of the risk-versus-reward factor that is the dominant entrepreneurial philosophy of the mining industry and which has always been a challenge successfully resolved in our past endeavours.

Utilization of debt as a source of finance is a necessary prerequisite in today's mining industry in order to have any large-scale mining project, which ordinarily requires substantial investment, in place and operational to take full economic advantage of the cyclical nature of metal prices.

The Corporation's long term debt at the 1981 year end amounted to $94.3 million and comprises a revolving loan of $65.2 (US$55 million) (of which $43.5 million was borrowed in connection with the acquisition and $22 million was in the corporations acquired), and a term loan of $29.1 million. The revolving loan is convertible into a reducing term loan at the end of 1982 and is repayable in 18 equal semi-annual installments commencing June 30, 1983. Until June 1983 only interest payments have to be made.

The term loan of $29.1 million is part of a facility of US$40 million in connection with the investment in Patiño Mining N.V. The undrawn balance of this facility is available for interest roll-up during 1982 and 1983. Accordingly there are no interest or principal payments to be made during 1982 or 1983. The loan is repayable on December 31, 1983.

It should be noted that the investment in Patiño Mining N.V. is subject to a shareholders' agreement which provides, among other stipulations, that your Corporation has the right, in December, 1983 to require Patiño Antilles to purchase its 35% shareholding in Patiño Mining N.V. at Northgate's carrying cost to enable repayment of the term loan if the Corporation is unable to refinance the loan on commercially reasonable terms.

The Corporation's short term bank indebtedness at year end was reduced as a result of the post balance sheet sale of the 34% interest in Edper Equities to Patiño N.V. which was completed on January 11, 1982 and the proceeds received were applied to reduce the bank advances.

It would be less than realistic to not recognize that a continuation of depressed world prices for base and precious metals for at least a major portion of 1982 will reduce the funds available for planned capital and development expenditures and debt servicing.

In order to be prepared for such an eventuality, and to safeguard against any erosion of our long term plans for expansion, discussions are currently taking place with the Corporation's bankers and others regarding the establishment of additional long term financing arrangements for funding capital expenditure programs. However, it is also recognized that at an appropriate time it would be desirable to replace a portion of our long term debt with some form of permanent financing.

Your Corporation has considerable potential sources of liquidity in terms of its $17 million cash, major investments and other tangible assets to

supplement other potential revenue sources to enable it to bridge the period of economic uncertainty.

Organization

During the year, Messrs. Matthew Gilroy, Peter McAleer, Joseph V. McParland and George T. Smith, resigned as Directors of the Corporation. Appointed to fill these vacancies and concurrently increase the Canadian composition of the Board, were Messrs. G. Warren Armstrong, Robert E. Fasken, John F. Kearney and Alan R.B. Lowe.

Mr. Armstrong, President of The Coniagas Mines, Limited, the corporation controlling Quebec Sturgeon River Mines Limited and Bachelor Lake Gold Mines Inc., and Mr. Fasken, who is Chairman of Camflo Mines Limited, have both served previously as Directors and Officers of the Corporation during its formative years.

Mr. Kearney is Executive Vice President of Northgate and Mr. Lowe is President of Anglo United Development Corporation Limited.

Messrs. Gilroy, McAleer and McParland remain as Officers of the Corporation, while Mr. Smith, who retired from the Board because of ill health, also resigned as President.

Mr. Patrick J. Hughes assumed the office of President in addition to his position as Chairman. Mr. John F. Kearney, formerly Secretary-Treasurer, was appointed Executive Vice President and Secretary.

Acknowledgements

The acquisition of the Canadian mines provided all the benefits inherent in an integrated competent and well motivated work force totalling some 700 persons, including the essential supervisory and management staffs, many of whom are long time employees with valuable experience and insight into the operations.

We are pleased to welcome these new employees to the Northgate team to jointly complement the effective co-operative efforts of the entire staff.

The Board also acknowledges the dedicated efforts of Northgate's employees and the many professional advisors and specialists who assisted in the multitude of details necessary in the successful completion of a complex transaction.

Pat. J. Hughes.

Patrick J. Hughes,
Chairman of the Board

March 31, 1982

Mining

NORTHGATE PATINO MINES INC. (100%-owned)
Copper Rand, Portage and Lemoine Mines, Chibougamau, Quebec, Canada

In September, 1981, Northgate Exploration Limited acquired three base and precious metal producing mines located near Chibougamau, Quebec, 350 miles north of Montreal. These mines and associated properties are operated by Northgate Patino Mines Inc., a wholly-owned subsidiary of Northgate Exploration.

The **Copper Rand** mine and its associated mill is located approximately five miles southeast of Chibougamau. A further five miles northeast from the Copper Rand mine is the **Portage** mine. Ore from both of these mines is processed in the Copper Rand mill, to produce copper, gold and silver in the form of copper concentrate. The mill has a capacity of 3,400 tons per day equivalent to 1,200,000 tons per year.

The third operation is the **Lemoine** mine, a zinc, copper, gold and silver producer which, with its mill is located approximately 14 miles southeast of Chibougamau.

The three operations employ over 700 people in the Chibougamau area.

Copper Rand Mine

Of the three operations, the Copper Rand is the longest running. It has been operated continuously since December , 1959, when production began, with ore reserves of 2,106,000 tons averaging 2.7% copper and 0.066 oz. gold per ton. At December 31, 1981, ore reserves to 3,300-ft. were 4,965,000 tons averaging 1.81% copper and 0.057 oz. gold per ton.

The mine is serviced by a 3,080-ft., 4-compartment shaft from surface, and an internal shaft or "winze" between the 2,550-ft. and 3,300-ft. levels, which it is anticipated will be sunk to greater depth at a later date.

Mining is currently being carried out between the 525-ft. and 1,000-ft., and the 1,700-ft. and 3,150-ft. levels, with most production coming from below the 2,100-ft. level. The principal mining method is flat-back-cut-and-fill.

Portage Mine

The Portage mine began production in 1960 with reserves of 660,000 tons averaging 2.66% copper and 0.160 oz. gold per ton. It operated until 1974, when the three-compartment shaft was deepened to its present depth of 3,920-ft.

Following underground exploration initiated in 1979, development of newly discovered ore zones was begun that same year and in mid-1980 production was resumed.

Portage is still in the development stage, although production from it has been increasing. Northgate plans to increase output from the 1980 rate of approximately 120,000 tons to 181,000 tons in 1982 and 360,000 tons annually by mid-1983. At December 31, 1981, ore reserves to 3,300 ft. were 2,526,000 tons averaging 1.75% copper and 0.067 oz. gold per ton.

Mining is currently being carried out in ore lenses between the 1,800-ft. and 2,550-ft. levels. Development of the zones identified as the 02-6 and 43-6 below the 2,550-ft. level will be carried out initially down to the 3,650-ft. level where ore has already been established.

Lemoine Mine

The third of Northgate's recent acquisitions, the Lemoine mine, and its 400-tons per day capacity flotation concentrator, went into operation in 1975 with ore reserves of 625,000 tons averaging 10.8% zinc, 4.5% copper, 0.138 oz. gold per ton and 2.7 oz. silver per ton. The mine is serviced by a 1,220-ft., 3-compartment shaft and by a ramp between the 1,220-ft. and 1,290-ft. levels. The property itself

consists of a mining concession and 182 contiguous claims covering 7,280 acres.

At December 31, 1981, ore reserves were 81,100 tons averaging 8.12% zinc, 2.50% copper, 0.081 oz. gold per ton and 1.34 oz. silver per ton. The currently known ore is expected to be exhausted in September, 1982.

Northgate has, however, initiated an exploration program on the Lemoine property to test areas of known base metal and gold mineralization and newly-developed geological concepts. The program includes diamond drilling and extensive geophysical surveying.

Former producers

The Copper Rand and Portage mines are located on a large block of mining concessions and contiguous mining claims held by Northgate which cover approximately 12,000 acres in McKenzie, Obalski and Roy Townships. This ground includes three former producing mines, Copper Cliff, Jaculet and Bateman Bay. At an appropriate time Northgate intends to re-evaluate the potential of these mines at depth.

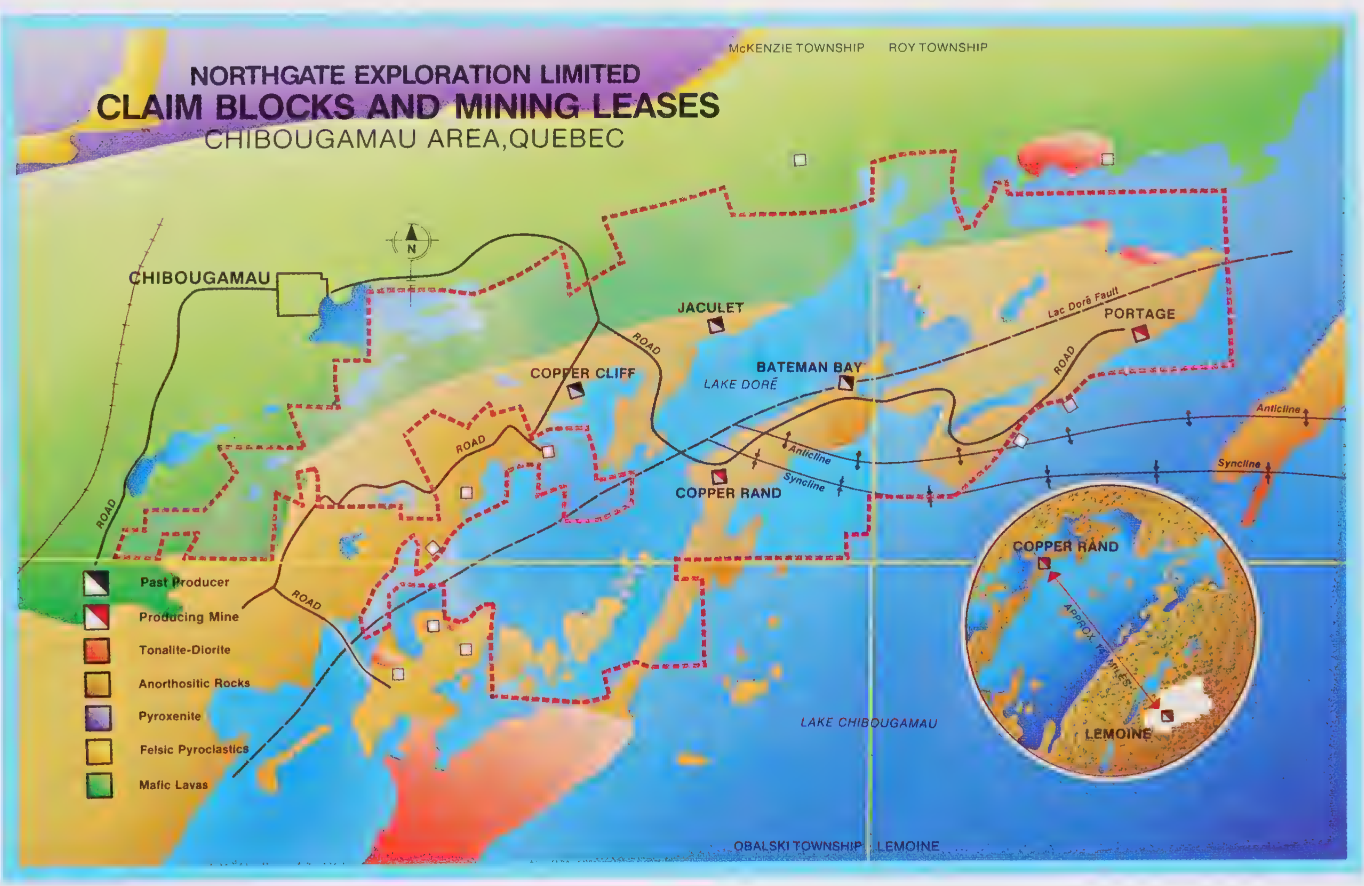
Total production from all of the Northgate Chibougamau mines to December 31, 1981, is shown in the accompanying table.

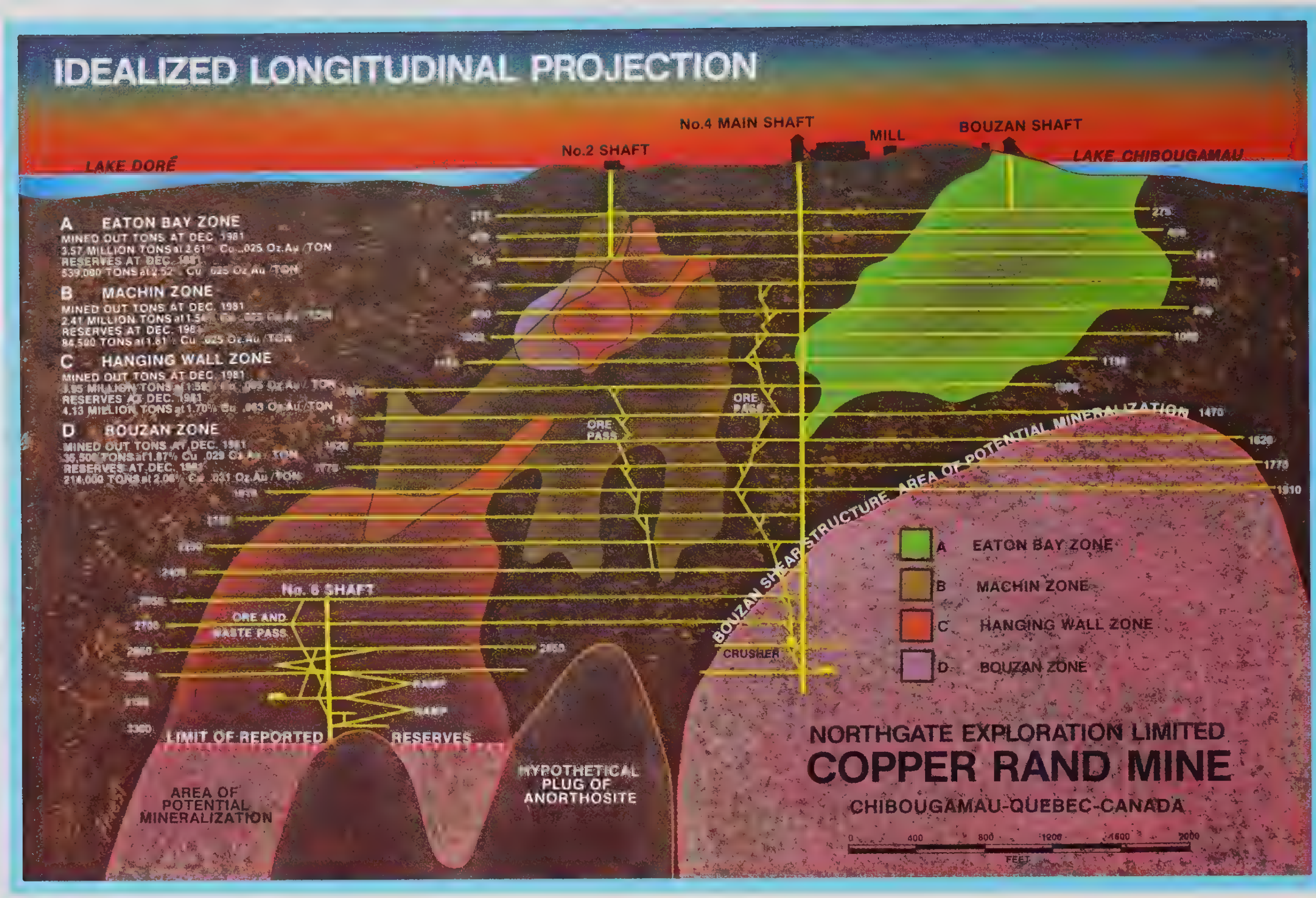
Production from Chibougamau properties now held by Northgate Patiño Mines Inc.

(to December 31, 1981)

Mine	Period	Ore Produced (tons)
Copper Rand	1960-1981	9,911,000
Portage	1960-1974; 1977; 1979-1981	3,054,000
Copper Cliff	1970-1974	953,000
Jaculet	1960-1971; 1974; 1977	1,200,000
Bateman Bay*	1970; 1977	8,000
		15,126,000
Lemoine	1975-1981	685,000

* Bateman Bay property is held under lease.





Geology and Exploration Potential

Much of the Chibougamau region is underlain by volcanic and granitic rocks, but its main feature is the Lac Doré intrusive sill complex. The principal deposits of the area occur in a large unit of anorthosite in the sill, and near the Lac Doré fault, within shear zones at right angles or parallel to the fault.

The Copper Rand orebodies occur as discreet lenses of mineralization grouped into zones localized in shear structures which vary from 900 to 2,000 feet in overall width and which have an aggregate length of 3.5 miles in a north-west, south-east direction within the confines of the property boundaries. The Eaton Bay, Machin, Hangingwall and Bouzan Zones occupy 1.2 miles of this length leaving 2.3 miles of shear zone as yet unexplored at depth.

During the early development years of the Copper Rand Mine, most of the 3.5 mile length of shear was investigated by relatively shallow surface diamond drilling which outlined the Eaton Bay Zone, the Machin Zone, and the upper tip of the Bouzan Zone. It was not until the mine workings reached a depth of 2,100 feet that the upper tip of the very important Hangingwall Zone was discovered.

The idealized longitudinal section above illustrates the relationships of the Copper Rand ore zones. The section also shows the projected extensions to greater depths of the Hangingwall and Bouzan Zones where Northgate expects underground diamond drilling to add significantly to the present ore reserves in the short term.

Also, armed with the knowledge and experience gained over the 22 years of mining these orebodies, Northgate believes that other blind ore zones will be discovered in the shear structure at depths below 1,000 feet where it has yet to be explored along an aggregate length of 2 miles. The same consideration may be given to the shear structure which runs through the old Jaculet and Bateman Bay Mines for a distance of at least 1.5 miles.

The orebodies at the Portage Mine also occur in shear structures which vary from 300 to 700 feet in width and their dip angles range from near sub-horizontal to from 45 to 60 degrees. To date, ore reserves have been established and/or mined in three different shears striking respectively NE-SW, E-W and N-S.

The idealized longitudinal section of Portage on page 14 shows the original orebody which outcropped at the lake bottom in a NE-SW direction. The 43-6 orebody lies in a N-S shear structure with its top at a depth of 2,100 feet and the 02-6 vein occupies a NE-SW structure, extending downward from 1,800 feet. The 43-6 and the 02-6 zones are expected to contain additional ore at depth as shown.

Exploration of these three shear structures to date has been localized in an area close to the mine workings. In the case of the 02-6 and 43-6 zones much more exploratory work remains to be done along their respective extensions and the chances of finding new orebodies therein are considered to be very favourable.

Quite recently, long "wildcat" horizontal drill holes on the intermediate levels of the Portage Mine have encountered 3 entirely new shears exhibiting very encouraging mineralization and alteration of the rocks. One strikes N-S and two strike NE-SW and they are located between 500 feet and 1,350 feet from the existing mine openings. Northgate is confident that, with further work, additional ore reserves will be developed in these new structures.

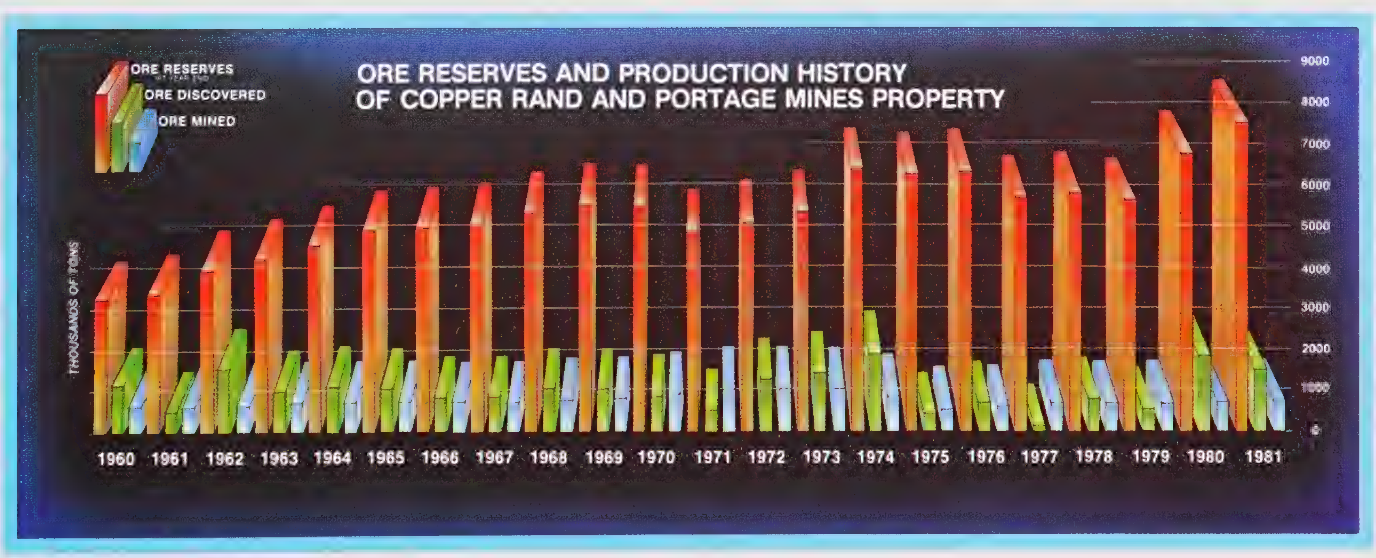
In addition, on Portage Island, within easy reach from the Portage Mine shaft, lies the McKenzie Quartz Vein which has returned spectacular gold values from surface trenches. It will be explored from underground in 1983. 6,000 feet to the north of the Portage shaft, is the North Magnetite Zone which produced encouraging copper values in 1981 diamond drill core. Further work is planned on this structure.

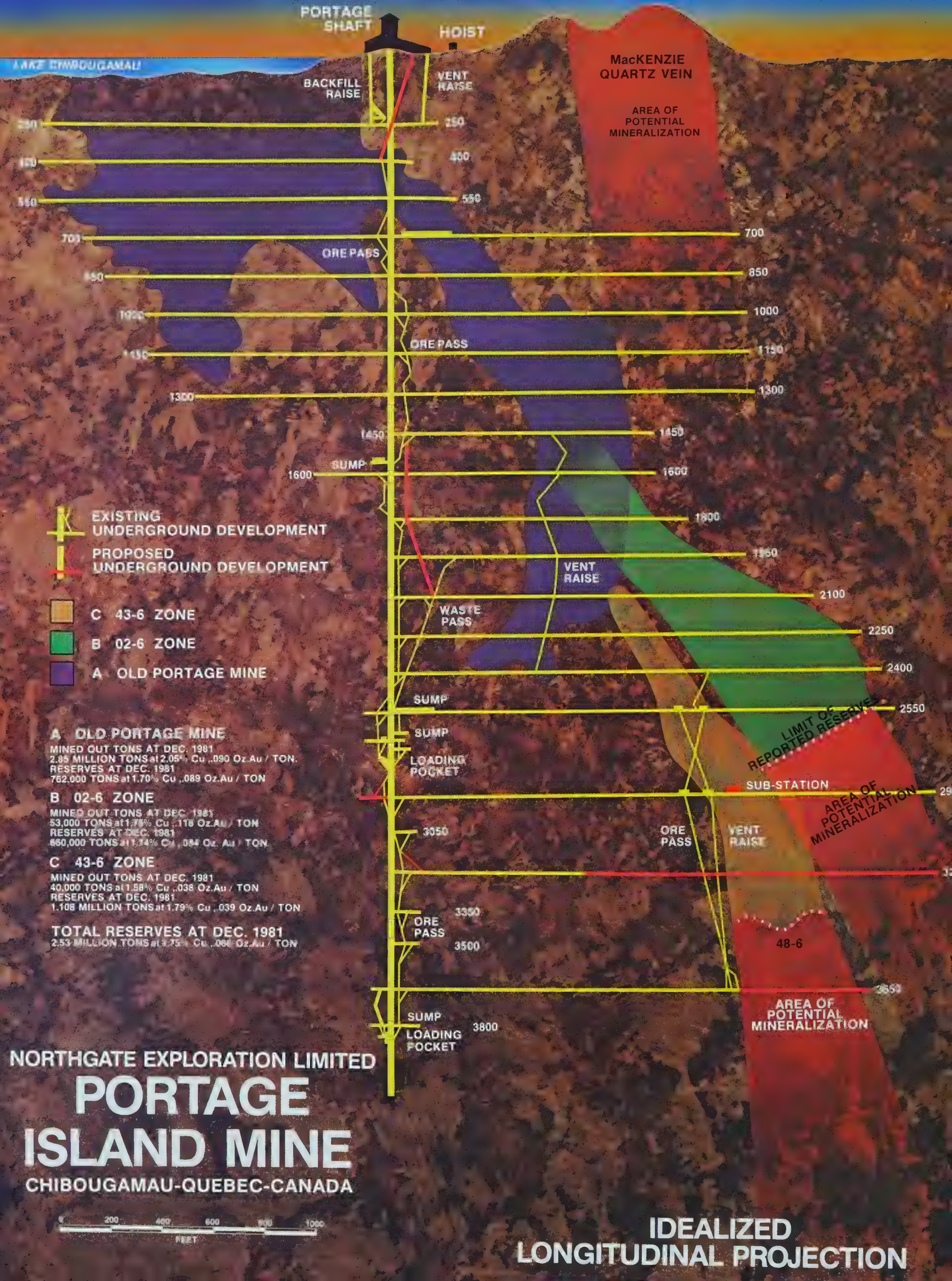
Ore reserves at December 31, 1981, are shown in the following table:

Ore reserves

At December 31	Tons	Copper %	Zinc %	Gold oz/ton	Silver oz/ton
Copper Rand:					
1981 to 3,300 ft.	**4,965,000**	**1.81**	**–**	**0.057**	**–**
1980 to 3,150 ft.	4,784,000	1.87	–	0.055	
Portage:					
1981 to 3,300 ft.	**2,526,000**	**1.75**	**–**	**0.067**	**–**
1980 to 3,250 ft.	1,987,000	1.81	–	0.067	
Total*					
1981	**7,491,000**	**1.79**	**–**	**0.060**	**–**
1980	6,771,000	1.85	–	0.059	–
Lemoine:					
1981 to 1,290 ft.	**81,100**	**2.50**	**8.12**	**0.081**	**1.34**
1980 to 1,220 ft.	144,000	3.66	9.49	0.117	0.99

* Copper Rand and Portage reserves are combined because of the common milling operations.




PORTAGE SHAFT
HOIST
LAKE CHIBOUGAMAU
BACKFILL RAISE
VENT RAISE
MacKENZIE QUARTZ VEIN
AREA OF POTENTIAL MINERALIZATION
ORE PASS
SUMP
VENT RAISE
WASTE PASS
LIMIT OF REPORTED RESERVES
SUB-STATION
AREA OF POTENTIAL MINERALIZATION
LOADING POCKET
48-6
EXISTING UNDERGROUND DEVELOPMENT
PROPOSED UNDERGROUND DEVELOPMENT
C 43-6 ZONE
B 02-6 ZONE
A OLD PORTAGE MINE
A OLD PORTAGE MINE
MINED OUT TONS AT DEC. 1981
2.85 MILLION TONS at 2.05% Cu .090 Oz.Au / TON.
RESERVES AT DEC. 1981
762,000 TONS at 1.70% Cu .089 Oz.Au / TON
B 02-6 ZONE
MINED OUT TONS AT DEC. 1981
53,000 TONS at 1.75% Cu .118 Oz.Au / TON
RESERVES AT DEC. 1981
660,000 TONS at 1.74% Cu .084 Oz. Au / TON
C 43-6 ZONE
MINED OUT TONS AT DEC. 1981
40,000 TONS at 1.58% Cu .038 Oz.Au / TON
RESERVES AT DEC. 1981
1.108 MILLION TONS at 1.79% Cu .039 Oz.Au / TON
TOTAL RESERVES AT DEC. 1981
2.53 MILLION TONS at 1.75% Cu .066 Oz.Au / TON
NORTHGATE EXPLORATION LIMITED
PORTAGE ISLAND MINE
CHIBOUGAMAU-QUEBEC-CANADA
0 200 400 600 800 1000
FEET
IDEALIZED LONGITUDINAL PROJECTION

Review of Operations

Copper Rand: The Copper Rand mine operated continuously throughout 1981. Ore production during the year totalled 622,786 tons, equivalent to 1,706 tons per day, compared with 595,518 tons or 1,632 tons per day in 1980.

Development in 1981 was concentrated in the internal shaft area and included completion of a ramp to the 3,300-ft. level and scheduled for later extension to the 3,740-ft. level. Ore reserves were increased during the year as more ore was outlined than mined.

Portage: The Portage mine also operated continuously during 1981. Extensive mine development continued, concurrently with ore production at an increased rate. A total of 116,593 tons of ore was sent to the Copper Rand mill, an average of 319 tons per day, compared with 82,442 tons or 226 tons per day in 1980. By year-end the production rate had built up to 500 tons per day. Northgate intends to increase production to 1,000 tons per day, or 30,000 tons per month, in 1983.

Mine development was aimed at establishing new levels and installations in the deeper part of the mine. The main haulage drift on the 3,650-ft. level was driven. An internal ore pass and main ventilation raises were bored between the 2,900-ft. and 3,650-ft. levels.

Underground exploration added significantly to ore reserves during the year. Early in 1982 new diamond drill intersections and ore exposed on the 2,900-ft., 3,300-ft., and 3,650-ft. levels indicated reserves would be further increased in these localities.

Lemoine: The Lemoine mine operated continuously throughout 1981, producing 93,699 tons of ore at an average rate of 257 tons per day, compared with 115,149 tons or 315 tons per day in 1980.

Ore was supplied to the mill from all levels of the mine. At the planned milling rate for 1982, the 81,100 tons of remaining currently known ore reserves will be exhausted in September, 1982.

Early in 1981 diamond drilling intersected mineralization below the known orebody and to the west, on strike, but no additional ore was located. Under Northgate's exploration program drilling resumed in February, 1982, to test previously undrilled but geologically attractive sections at shallow depths to the east and the west of the orebody.

Production statistics

Data relating to the three mining operations are presented in the accompanying table.

ORE MILLED	Tonnage	Copper %	Zinc %	Gold oz./ton	Silver oz./ton
Copper Rand*					
1981	739,379	1.64	–	0.074	0.266
1980	677,960	1.68	–	0.086	0.269
Lemoine					
1981	93,699	3.70	8.47	0.119	2.03
1980	115,149	4.71	10.00	0.150	2.59

CONCENTRATE PRODUCTION	Tonnage	Copper %	Zinc %	Gold oz./ton	Silver oz./ton
Copper Rand*					
1981	59,544	19.90	–	0.763	2.27
1980	57,611	19.13	–	0.844	2.20
Lemoine					
Copper Concentrate					
1981	13,364	24.59	–	0.658	11.01
1980	21,202	24.31	–	0.656	11.09
Zinc Concentrate					
1981	11,815	–	52.55	–	–
1980	16,266	–	51.11	–	–

RECOVERIES	Copper %	Zinc %	Gold %	Silver %
Copper Rand*				
1981	97.72	–	83.04	68.69
1980	96.75	–	83.35	69.58
Lemoine				
1981	94.82	78.19	79.06	77.23
1980	95.38	76.34	79.69	78.98

METAL PRODUCTION	Copper lb.	Zinc lb.	Gold oz.	Silver oz.
Copper Rand*				
1981	23,698,395	–	45,437	135,094
1980	22,040,000	–	48,600	126,900
Lemoine				
1981	6,572,386	12,417,561	8,788	147,074
1980	10,308,000	16,628,000	13,900	235,100

* Includes Portage production.

Planned Production Schedule for 1982

Copper Rand: 652,000 tons averaging 1.73% copper, 0.067 oz. of gold per ton and 0.27 oz. of silver per ton to be milled, to produce 55,000 tons copper concentrate containing 22,040,000 lb. of copper, 38,000 oz. of gold and 122,000 oz. of silver.

Portage: 181,500 tons averaging 1.70% copper, 0.066 oz. of gold per ton and 0.27 oz. of silver per ton to be milled, to produce 15,000 tons copper concentrate containing 6,040,000 lb. of copper, 10,000 oz. of gold and 34,000 oz. of silver.

Lemoine: 85,600 tons (comprising broken ore and reserves) averaging 2.58% copper, 7.62% zinc, 0.084 oz. of gold per ton and 1.39 oz. of silver per ton to be milled to the end of September 1982, to produce 8,520 tons of copper concentrate containing 4,174,000 lb. of copper, 5,400 oz. of gold and 91,300 oz. of silver and 9,800 tons of zinc concentrate containing 10,177,000 lb. of zinc.

The Tynagh Mine, which pioneered the resurgence of mining in Ireland to major scale. Shown here is the milling complex at right.

REVIEW OF TYNAGH MINE OPERATIONS

IRISH BASE METALS LIMITED (100%-owned)
Tynagh Mine, County Galway, Ireland.

The first of the current generation of Irish metal mines to be discovered, the Tynagh lead-zinc-copper-silver mine operated by your Corporation's wholly-owned subsidiary, Irish Base Metals Limited, was in production from 1965 until July, 1980. During this period, approximately nine million tons of ore were treated in the Tynagh concentrator, producing approximately two million tons of lead and zinc concentrates containing 1,062 million lb. lead, 620 million lb. zinc, and 44 million lb. copper, with by-product recovery of silver amounting to nearly 16 million oz.

Following metallurgical test work in 1980, modifications to the crushing and milling circuits of the concentrator were made. Processing of surface stockpiles of silver oxide ore remaining from earlier open pit operations commenced in February, 1981.

The treatment of the silver oxide ore involved crushing, followed by flotation to produce a concentrate containing silver, and lesser amounts of lead, zinc and copper. Tailings from the flotation process were then subjected to leaching from which a silver-bearing precipitate was produced and collected in filter presses. On further treatment (furnacing), this precipitate yielded silver bullion and a slag with a relatively high silver content.

Processing of the silver oxide ore in the concentrator was carried out between February and December, 1981, when stockpiles of the ore were exhausted. During this period 120,442 tons of ore averaging 3.07% lead, 0.56% zinc, 0.29% copper and 7.57 oz. silver per ton were treated, at an average rate of 534 tons per operating day.

Production statistics are given in the accompanying tables.

Production

		Silver content (approximate)
Silver concentrates	3,780 tons	316,800 ozs.
Silver bullion (97% Ag)	4,771.996 kg	148,800 ozs.
Slag (8.65% Ag)	38,099.647 kg	106,000 ozs.
		571,600 ozs.

Metallurgical recoveries

	Lead %	Zinc %	Copper %	Silver %
From ore to:				
Concentrate	23.2	44.1	31.4	34.6
Bullion and slag	—	—	—	30.1
Total				64.7

Following the year-end, 19,700 oz. of silver contained in bullion and slag were obtained from the precipitate still held in the filter presses at the end of

1981. The refractory material subsequently removed from the furnace contained an additional approximate 4,700 oz. silver. This is in addition to the foregoing total of 571,600 ozs. Operations at Tynagh ceased in January, 1982.

Concentrate sales

During 1981, 12,137 tons of bulk lead-zinc concentrates and 1,672 tons of copper concentrates which had been produced during the operation of the underground mine and stored in ponds at Tynagh were recovered and shipped.

The approximate totals of payable metals in these concentrates shipped in 1981 were as follows:

Lead	7,926,600 lbs.
Zinc	3,073,900 lbs.
Copper	594,500 lbs.
Silver	200,300 ozs.

Conservation

Reclamation at the Tynagh mine site has been an ongoing program. It has included re-contouring in the area of the open pit mine and hydro-seeding to restore ground vegetation to the landscape. During 1982 site restoration will continue.

Treatment of the remaining surface stockpile of silver oxide ore was completed in 1981 producing 596,000 ozs. of silver. The scene below shows the pouring of silver bullion into bars.

Mine Development Projects

Mine planning and development studies are continuing on Northgate's two Ontario gold projects, the Northgate/Orofino joint venture project in Horwood and Silk Townships, 65 miles southwest of Timmins, and the Scadding project, 30 miles northeast of Sudbury. Production decisions must await an improvement in the price of gold.

Northgate/Orofino Joint Venture

The subject properties of the October, 1979, Joint Venture Agreement between Northgate and Consolidated Orofino Resources Limited now consist of 145 claims covering approximately 5,800 acres in Horwood and Silk Townships. Northgate has earned a 60% interest in the properties, its expenditures of $2,131,245 to December 31, 1981, having been well in excess of the minimum $1.3 million required to be spent to earn that interest.

Northgate, the manager of the project, owns 250,000 Consolidated Orofino shares (15%), and also has an option to purchase a further 250,000 shares, exercisable on or before November 30, 1982.

Under the joint venture agreement, an exploration program was launched which included an intensive diamond drilling campaign in the vicinity of the old underground workings, geological mapping and geophysical and geochemical surveying. The drilling phase, carried out between May 1980 and August 1981, consisted of 72 holes, totalling 62,011 ft., of which 50,391 ft. were in the area of the old shaft, while most of the remainder had as their objective the extension of the replacement zone south of the mine site. Mine engineering studies were initiated in mid-1981.

Previous work on the property included underground development between 1948 and 1951. During this time a 306-ft. shaft was sunk, two levels were established at 150 ft. and 275 ft. within the vein zone and 4,751 ft. of lateral work and about 8,000 ft. of underground drilling were carried out. Later surface drilling in the minesite area included over 21,000 ft. in 1962-63 and 8,200 ft. in 1973-74.

The recent drilling confirmed the existence of two types of gold-bearing systems, one the quartz vein zone and the other, at greater depth, the replacement zone. Gold mineralization also appears to continue south of the mine area, both replacement and quartz vein hosts having been picked up by the drilling,

separated by an intervening east-northeast fault. The general exploration program identified additional targets in other areas of the properties.

For mine development purposes, the two zones identified are the upper and lower, estimated to contain approximately 825,000 tons averaging 0.17 oz. gold per ton.

The upper zone is mainly composed of a set of vein-type structures which extend down dip to a maximum vertical depth of about 900 ft. Ore reserves above 600 ft. below surface in this zone are largely in the proven category and are estimated to be 285,000 tons averaging 0.174 oz. gold per ton.

The lower zone, classified mainly as replacement type ore, consists of a series of wide, fairly flat lying beds ranging from 5 ft. to 16 ft. in thickness. Reserves in this zone, between 400 ft. and 900 ft. below surface, are estimated to be 540,000 tons at 0.17 oz. gold per ton.

Based on the results of the engineering and metallurgical studies completed to date, a low cost concept is being examined which involves mining the upper zone from a decline ramp, with a 200 tons per day mill and the concentrate being shipped to a smelter. An extension of the decline could then provide access to the lower zone for an underground exploration program.

In 1982, studies will continue on the development of a producing mine on the property. It would appear that a gold price in excess of US$500 per oz. will be required before the Northgate/Orofino deposit can become an economically viable mining operation.

Scadding Gold Project

Northgate's Scadding gold project consists of a contiguous block of 206 claims covering 8,240 acres and occupying nearly 40% of Scadding Township. The claims are subject to a 30% net profits royalty payable to the previous owners.

An intensive diamond drill program was started in the area of the four known gold zones in the fall of 1980 and completed in March, 1981, for a total of 20,777 ft., to allow detailed ore reserve calculations.

The property was then surveyed and the four claims on which the mineralized zones occur were taken to lease. Stripping and bulk sampling of the East-West zone were carried out. Mine engineering studies were also undertaken.

As a result of these studies, and a reassessment of the zones, mineable ore reserves are now calculated as:

Zone	Tons	Gold oz. per ton
East-West	16,323	0.275
Intermediate	119,340	0.222
North	10,670	0.396
Total	146,333	0.239

The East-West zone strikes east-west and plunges to the southwest. Closely-spaced drilling has indicated it is approximately 300 ft. long, irregular in width, averaging about 22 ft., and very shallow, with the deepest mineralization intersected at 150 ft.

The Intermediate zone strikes north-northwest and dips steeply to the northeast. Lenticular in shape, it is approximately 165 ft.long, up to 140 ft. wide with an average thickness of about 40 ft. and lies between 65 ft. and 400 ft. below surface.

The North zone, which lies 400 ft. northwest of the Intermediate zone, strikes northwest and dips steeply to the northeast. Ore grades extend over a length of 140 ft., a width of 50 ft. and an average thickness of 18 ft. This ore zone reaches the bedrock-overburden interface at the northwest end of the zone where it is covered by 18 ft. of overburden.

Mining plans involve open pit operations on both the East-West and North zones, and an underground operation, from a decline ramp, on the Intermediate zone. Ore will undergo crushing, grinding, gravity concentration and flotation in a 200 tons per day mill, with the concentrate being shipped to a smelter for gold recovery. An earlier concept under which the ore would have been shipped directly to a smelter for further processing has been superceded by the operation above.

In 1982 it is planned to proceed with further studies and to obtain the necessary approvals for mining and milling activities.

The diamond drill, the most effective mine finding tool, is shown here at location in three separate countries; Ireland alongside, below in the United States, and middle left in Canada.

At right is the main Reef Ridge zinc-lead prospect in Alaska where trench and surface sampling has already located some 15 zinc-lead showings.

Mineral Exploration

Over the last few years, in addition to the grass roots exploration which has always been a mainstay of your Corporation's exploration philosophy, appraisals of properties at a more advanced stage have been carried out.

Northgate's direct and indirect expenditures on mineral exploration in 1981 were $5,687,000. Through joint ventures with other companies the exposure was considerably higher.

A major portion of the 1981 North American effort was the work carried out on the Northgate/Orofino and Scadding gold properties, noted in the Development Projects section of this report.

With the Patino transaction, however, came an important shift in focus. The latter part of 1981 saw the start of an in-depth assessment of all the properties acquired, particularly the ground in the vicinity of the three operating mines in the Chibougamau area of Quebec. These base and precious metal producers and the adjoining areas are considered to have high exploration potential.

Canada

In Quebec, outside of the Chibougamau mine properties, your Corporation, through Northgate Patino Mines Inc., now owns or holds under option approximately 40 properties, comprising over 470 claims, scattered from Chibougamau through Bachelor Lake and the Val d'Or district to the Ontario border. Most lie within 30 miles of Chibougamau.

While these properties have considerable potential, it appears that little detailed exploration work has been carried out on them. A compilation of all available data is under way from which specific exploration projects are being derived. Already a dozen properties have been marked as priorities.

There are basically two principal exploration targets in the area: copper-gold-silver-pyrite-pyrrhotite mineralization within the anorthositic Dore Lake complex, as is currently being mined at the Copper Rand and Portage mines; and volcanogenic massive sulphide deposits within the various volcanic assemblages of the greenstone belts of which the Lemoine deposit is an example.

Areas adjacent to the mine workings and the ground covered by the mine area concessions and claims are the prime targets for the Doré Lake complex type, and will be the focus of Northgate's activities in the coming years

Two copper properties in the Gaspe region of Quebec are held through Fonbec Ltd. (Northgate Patino Mines Inc., 33⅓%) and Sullipek Mines Inc. (Northgate Patino Mines Inc., 27.67%). Other major shareholders in both companies are Terra Nova Properties, a subsidiary of Abitibi Price Inc., and Hudson Bay Exploration and Development Company.

In Northern Ontario the 7-claim gold prospect of Red Summit Mines (Northgate interest, 50.1%), in Todd Township near Red Lake, underwent a reappraisal in 1981. Exploration indicated several targets for follow-up along the extension of the shear zone tested underground from a 575-ft. shaft in 1937-39, while sampling of the old dumps indicated one to contain about 16,500 tons averaging 0.03 oz. gold per ton. Underground reserves are estimated at 35,000 tons averaging 0.25 oz. gold per ton.

Mapping and geophysical and geochemical surveys on 11 leased claims in Earngey Township near Uchi Lake confirmed the existence of the known structure and introduced the possibility of parallel structures but found no extensions to the structure. Drilling in 1959 outlined 64,000 tons averaging 0.28 oz. gold per ton.

One of the properties acquired as a result of the Patino transaction is an iron prospect on Baffin Island, approximately 450 miles north-northwest of Frobisher Bay, within two miles of a potential tidewater port on Eqe Bay. A 50% interest is held in these 92 claims, on which work in 1969 located seven magnetite and three hematite deposits over a 7-mile strike length, with four of the magnetite zones containing a possible 363 million tons averaging 35% iron.

United States

Of the properties in the United States acquired from Patino, three covering extensive acreage in Alaska are being given a high priority in Northgate's 1982 exploration program, Step Mountain (zinc-lead), Reef Ridge (zinc-lead) and Bonanza (tungsten-silver).

Significant mineralization has already been located at Step Mountain, 50 miles north of Eagle and close to the U.S.A.-Canada border, and at Reef Ridge 250 air miles northwest of Anchorage. Grab samples from a newly-discovered gossan at Step Mountain assayed up to 47% zinc in oxidized smithsonite.

On the main Reef Ridge prospect, one of 15 lead-zinc showings located along a 15-mile belt, assays from a trench extended in 1981 gave an average of 13.54% zinc over 244 ft. Trenching of a gossan zone on the Beaver prospect, another of the Reef Ridge areas, gave 19.25% zinc and 0.9% lead over 40 ft.

At the Bonanza prospect which lies on the Arctic Circle a few miles west of the Trans-Alaska pipeline, prospecting in 1981 located additional outcrops and frost heaved boulders with high tungsten and in one instance silver values.

Northgate has also acquired the Ord Mountain property in California where reserves of 474,000 tons averaging 0.75% copper and 0.554% molybdenum have been indicated in mineralized fracture zones in granodiorite. Diamond drilling totalling 8,866 ft. in 15 holes was completed in 1980-81.

Another acquired property of interest is ground in Vermont which covers the old Elizabeth, Ely and Pike Hill copper mines, 20 miles north of White River Junction. A major reappraisal of the geology and structural settings of the old orebodies is planned.

On the base metal prospect in Colorado optioned by Northgate and associated Westfield Minerals Limited, results from a 22-hole, 3,134-ft. rotary drill program carried out in 1981 were disappointing. Trenching, underground channel sampling, surveying and some additional staking of neighbouring land were also carried out.

Ireland

In mid-year a joint venture agreement was reached with a subsidiary of Getty Oil Company under which Getty will, by spending US$6.1 million by the end of 1984, earn a 50% interest in your Corporation's prospecting licences covering Carboniferous strata and a 30% interest in pre-Carboniferous licences in Ireland. This joint venture will allow a substantially increased level of exploration in Ireland during 1982.

In the Tynagh mine vicinity several areas of low grade mineralization encountered included some interesting occurrences in pre-Carboniferous rocks. Extensive geophysical surveys have outlined anomalous conditions related to these areas and may be indicative of the presence of economic mineralization. Future exploration will involve considerable drilling.

In the Charlestown area where previous work has outlined 3,000,000 tons of low grade copper-lead-zinc-silver mineralization, a series of geochemical and geophysical anomalies has been outlined in areas adjacent to known mineralization. Five of these will undergo diamond drilling in 1982.

Within the Carboniferous, in the Kildare area a strong geochemical anomaly was outlined adjacent to an area held by Noranda on which an important lead-zinc ore-grade intersection was obtained in 1981. Exploration in this area in 1982 will include drilling.

In the pre-Carboniferous the most significant discovery was the location of mineralized boulders and outcrop carrying low copper-molybdenum values over a 1.5 square mile area coinciding with geochemical anomalies in County Cavan.

Spain

Exploration of the Omanas River gold placer concessions continued during 1981 under a joint venture with Noranda Exploration Limited which can earn a 50% interest in the concessions by expenditures of US$500,000.

The first phase of drilling, completed by March, 1981, generally confirmed grade, thickness and distribution of the gold-bearing gravels.

A second phase of drilling began in late November, using new sampling tools because of previous recovery problems during churn drilling. Initial results have given significantly lower values, and it is not yet known if these are due to lower values in the new section being tested or to more accurate sampling. Drilling is continuing and will be followed by bulk sampling.

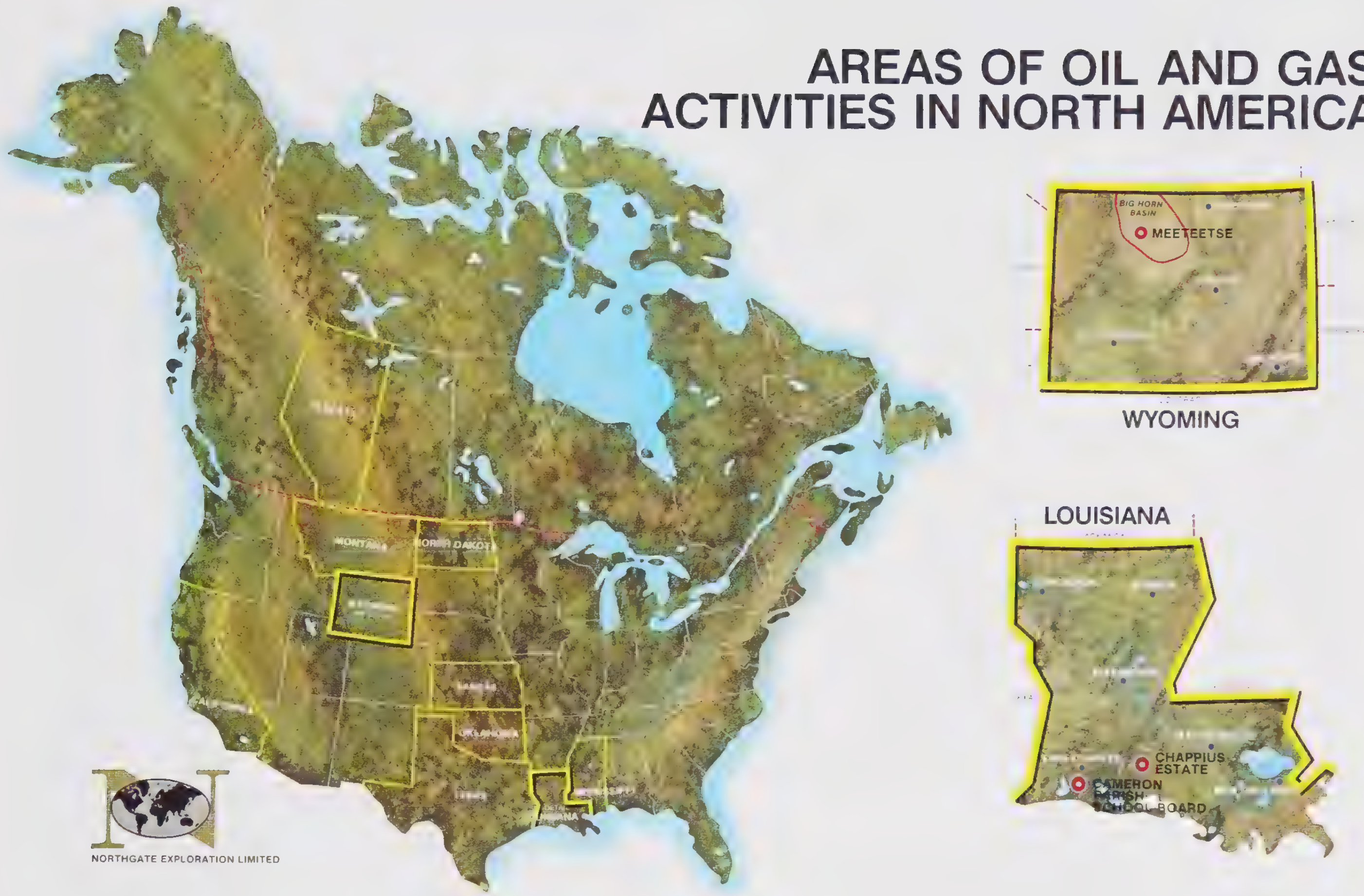
Australia

Northgate has a 49% interest in two exploration projects in Australia being operated by associated Whim Creek Consolidated N.L.

In the Gascoyne region of Western Australia exploration for tungsten is being carried out on 15 claims and two temporary reserves at Nardoo Well, South Nardoo and Morrissey.

Surface and underground sampling on the Clearview project, five claims in the Charters Towers district of Queensland, provided encouraging gold and silver values, while preliminary metallurgical testing indicated a relatively simple process. A drill program was initiated at year-end.

AREAS OF OIL AND GAS ACTIVITIES IN NORTH AMERICA



Oil and Gas

Since Northgate's initial participation in oil and gas exploration and development in North America in 1977, the range and scope of its activities have increased significantly. In addition to a sizeable program in the United States and Canada, your Corportion is earning a 36.75% interest in an exploration permit in Western Australia's Canning Basin, and is investigating other prospects in Australia and elsewhere.

Northgate's North American projects are operated through Mission Oil & Gas Ltd., a Calgary-based company, and its U.S. subsidiary, Mission Resources, Inc., based in Oklahoma City. Through this association, Northgate has participated in wells drilled in many of the major oil-production areas in Canada and the United States.

Northgate completed the third year of its 5-year, $15 million, North American program at the end of 1981. The asset base which has been built up in that time will provide increasing revenues for future growth.

Approximately 87% of 1981 expenditures was in the United States while the remaining 13% was in Canada, reflecting the more attractive economics of the former country.

Production

Fifty-two wells were on production at the end of 1981, double the number producing at the end of 1980. Of these 38 are in Oklahoma, three in Texas, two in Kansas, two in Montana and seven in Alberta. An additional 20 wells are expected to go on-stream shortly.

Gas markets in the United States have softened as have crude oil prices. On the other hand, prices in Canada for "new oil" have risen significantly, and even gas markets, so long depressed, show signs of rejuvenation. Conditional gas contracts have been entered into which may see some of Northgate's shut-in wells in Alberta go on production late in 1983 if export and other approvals are obtained.

NORTHGATE OIL AND GAS PRODUCTION

	1981	1980
Oil and Condensate (barrels)		
Canada	5,447	1,519
United States	6,253	826
Total	11,700	2,345
Natural Gas (thousands of cubic ft.)		
Canada	1,194	163
United States	46,817	22,303
Total	48,011	22,466

Land Position

As exploration and development have been extended into new areas, Northgate's land holdings have become more diversified. Your Corporation now holds varying interests in approximately 246,105 gross acres of oil and gas lands in North America (161,407 acres in the U.S. and 84,698 acres in Canada), which equates to a net Northgate holding of 26,957 acres. The intention is to add to this land inventory, both to accommodate expanding drilling plans and to increase farmouts to other companies.

NORTHGATE OIL AND GAS DRILLING ACTIVITY

	Gross Wells	Oil	Gas	Dry	Drilling at Year-End
1977 Canada	10	—	6	4	
1978 Canada	2	—	1	1	
1979 Canada	18	2	12	4	
United States	15	1	7	7	
	33	3	19	11	
1980 Canada	16	3	11	2	
United States	45	16	6	23	
	61	19	17	25	
1981 Canada					
Alberta	9	1	4	4	—
United States					
California	1	—	—	—	1
Louisiana	14	1	1	10	2
Mississippi	3	—	—	3	—
Montana	4	2	—	2	—
North Dakota	1	1	—	—	—
Oklahoma	27	13	5	5	4
Texas	19	5	—	12	2
Wyoming	5	—	5	—	—
	83	23	15	36	9
Five Year Total	189	45	58	77	9

Exploration and Development

Northgate participated in 83 wells drilled in 1981, an increase of 36% over the 61 wells drilled in 1980. Exploration and development begun in previous years continued in Alberta in Canada, and Oklahoma, Texas and Wyoming in the United States. New areas of exploration added in 1981 were California, Louisiana, Mississippi, Montana and North Dakota, in the United States.

Oil pump on production at the Mission et al Glenevis well near Edmonton, Alberta. Northgate interest 12.5%.

Alberta

All of Northgate's Canadian oil and gas activities in 1981 were confined to Alberta. Nine wells were completed, a decrease of seven from the 1980 total. The diminished program was attributable to a continuation of earlier industry-wide problems: low oil prices; the absence of markets for gas; and the protracted debate between the Alberta and Federal governments and the high level of taxation imposed on oil and gas revenues.

The program resulted in one oil well, four gas wells and four dry holes. The oil well (Northgate interest, 3.2%) is located in the Sylvan Lake area, as are two of the gas wells (Northgate interests, 3.2% and 4.6% respectively). The other two gas wells, drilled as farmouts at no cost to Northgate, are both near Pembina; Northgate holds over-riding royalties on both until payout. Northgate also holds interests varying from 3.2% to 5.1% in 2,560 acres in the Sylvan Lake development area.

The recent Canadian Federal-Provincial government agreements with their improvements in prices for new oil may provide the incentive for Northgate to increase its activities in Alberta in 1982, and a number of wells are planned.

Louisiana

Northgate has become very active in the Gulf Coast. Out of 14 wells drilled or drilling in Louisiana, 10 dry holes show that the risks are high, but the potential rewards as shown by the successful wells are equally great.

Wells of major significance are the Cameron Parish School Board No. 1 and Chappius Estate No. 1 in Lafayette Parish. The former (Northgate interest, 1.4%) found approximately 120 ft. of gas and oil pay in the Marginulina formation at 13,200 feet. The well commenced production at 6 million cubic feet and 120 barrels of condensate per day. Production rates are gradually being increased to an expected stabilized rate of between 12 and 15 million cubic feet per day. Two additional wells will be required to fully delineate this 960 acre prospect. An exploratory well is currently being drilled south of the School Board No. 1 well, and a development location will shortly offset this discovery.

The Chappius Estate Well (Northgate interest, 1.1%) came on production initially at 1.9 million cubic feet of gas and 240 barrels of condensate per day from 74 ft. of pay.

Montana

Two oil wells were drilled in Richmond County, Montana, Chester Hillman No. 1-31 and State No. 1-36 (Northgate interest in both, 3.9%), as well as two dry holes.

Oklahoma

Driskell No. 1, Harper County (Northgate interest, 4.5%) was tested at 2.5 million cubic feet of gas, while offsetting acreage is available for development. Four other gas wells in which your Corporation has varying positions are expected to be on production shortly, and three other wells are undergoing completion as gas producers.

Twelve oil wells, all modest producers, are also contributing to Northgate's cash flow. A number of these in addition produce saleable volumes of natural gas.

Texas

Activities in Texas have been located in the Gulf Coast area and the Midland Basin. S.W. Midland No. 1 (Northgate interest, 5.0%) in Midland County is flowing at a rate of 170 barrels of oil and 300 thousand cubic ft. of gas per day. Everett No. 1, Borden County, is pumping 90 barrels of oil per day. Northgate's interests range from 2.0% to 3.9% in various parcels of land comprising 6,960 gross acres offsetting the Everett well. University 1 "A" No. 35-1 (Northgate interest, 3.0%) and University 1 "B" No. 30-1 (Northgate interest, 2.0%) in Andrews County are apparent oil wells waiting on pumping units.

Wyoming

The Meeteetse gasfield in Park County, Wyoming, continues to undergo development. Six gas wells have been drilled to date, with Northgate's interests ranging from 1.0% to 12.0%. All are productive, from the Muddy and Frontier sands formations.
While two are still being completed, the remaining four are each capable of production from 1.5 to 3.1 million cubic feet of gas per day, plus as yet unmeasured amounts of condensate. A gas contract should be executed shortly which will see revenue begin immediately under a take-or-pay provision. At least three and possibly six or more wells will be drilled in 1982 to develop further the 4,040 acre field.

Reserves

Northgate's proven and probable reserves of oil and condensate were 114.2 thousand barrels at the end of 1981, an increase of 21.1% over those of a year earlier. A more impressive increase occurred in reserves of natural gas which at 3.6 billion cubic ft. were higher by 62.1%. These figures are expected to grow as discoveries are developed.

NORTHGATE
OIL, CONDENSATE AND NATURAL GAS RESERVES
(as at December 31, 1981 and 1980)

	Proven and Probable 1981	Proven and Probable 1980
Oil and Condensate (barrels)		
Canada	52,300	59,200
United States	61,900	35,100
Total	114,200	94,300
Natural Gas (millions of cubic ft.)		
Canada	1,330	685
United States	2,313	1,562
Total	3,643	2,247

Australia

During 1981 geological compilation work and a gravity survey were carried out on the oil exploration permit No. 205 in Western Australia's Canning Basin, acquired by a joint venture grouping led by Northgate associate, Whim Creek Consolidated N.L. By funding the first year of exploration of the permit on behalf of Whim Creek, Northgate is entitled to earn a 49% share of Whim Creek's 75% holding, equivalent to a 36.75% interest in the permit.

Petroleum exploration in the Canning Basin has been carried out spasmodically for almost 60 years. Exploration activity has accelerated since a new discovery of oil in 1981, the Home-Occidental Blina No. 1 well, one of the most significant in Australia in recent years, in the northwest part of the basin, in Devonian strata at depths of 4,600-4,850 ft.

A seismic survey is planned for 1982, and possible follow-up drilling in 1983. An application for a further contiguous licence area has also been lodged with the Western Australia government.

Outlook

Northgate's objective for its 1982 North American oil and gas exploration and development program is to participate in the drilling of 100 wells, to lease promising acreage and to arrange farmouts whereby others will aid in evaluating Northgate's lands.

The United States will remain Northgate's primary area for exploration and development. However, as a result of the recent agreements between the Canadian Federal and Alberta governments, with their higher prices for new oil, the Canadian scene will be reconsidered and additional wells are planned.

With increasing production in North America providing a solid foundation, Northgate is planning to broaden and expand its interests in oil and gas exploration, and is investigating several areas worldwide where it might participate. The aim is to achieve a balance between high potential, higher risk joint venture exploration prospects and moderate risk, conventional exploration, as typified by much of the North American activity.

Associated Corporations

ANGLO UNITED DEVELOPMENT CORPORATION LIMITED
(Northgate interest — 35%)

Anglo United Development Corporation Limited is essentially a mineral exploration corporation with extensive ground holdings in Ireland which include antimony-gold, uranium, copper-silver and base metal prospects, held under prospecting licences. Its mineral and petroleum interests in Canada centre primarily on the 19-claim, Camp Lake, gold prospect at Snare River, near Yellowknife, Northwest Territories. Held under a 20-year mining lease, this property has undergone extensive, intermittent, exploration since 1965.

The various interests in Ireland are held by a wholly-owned Irish subsidiary, Munster Base Metals Limited. At Anglo's fiscal year-end, October 31, 1981, Munster had a direct interest in 43 prospecting licences; 15 are 100%-owned by Munster, nine fall within the Munster-Penarroya-Preussag joint venture currently managed by Munster, and the remaining 19 are the subject of various joint venture agreements with other corporations.

Clontibret Gold Project

During 1981, activity was increasingly concentrated around the Clontibret area of County Monaghan, where Munster holds five licences which include the old Clontibret Mine, operated on a modest scale for the recovery of antimony during the first World War.

In 1981 extensive exploration was undertaken over a wide area. Previous diamond drilling in 1979 had confirmed and extended the gold potential first indicated by underground exploration and drilling at the Clontibret Mine in 1956-57. The 1979 drilling indicated the presence of three to five narrow, gold-bearing, quartz veins in a zone traced over a north-south strike for over 1,200 ft., open at both ends and tested only to a vertical depth of 200 ft.

Preliminary trenching in March, 1981, in an area of unusually thin overburden at the eastern end of a 5,000 ft. anomalous zone indicated by deep overburden geochemistry showed significant gold values, ranging up to 1.0 ppm (equivalent to 0.03 oz. per ton) gold, in heavily weathered, sheared and quartz-veined greywackes and shales.

Between June 1981 and January 1982 nine diamond drill holes were completed for a total of 2,283 ft. The best values were in holes CL-81-1 (0.03 oz. gold per ton over 14.3 ft.) and CL-81-8 which had four separate intersections including one of 0.19 oz. per ton over 4.9 ft.

Surface mapping and detailed re-logging of the 1979 drill core are in progress and will provide data which, with information from the 1956-57 drill holes and underground workings, should enable a 3-dimensional geological picture of the area to be constructed for the first time.

Donegal Uranium Project

Exploration on the four prospecting licences in County Donegal, 100%-owned by Munster, was suspended early in 1981, This decision was largely influenced by the depressed value of uranium in world markets. However, the opportunity was taken to evaluate the extensive exploration data which had been accumulated as a result of the 1978-80 activity in order to plan for future programs under more favorable economic conditions.

Snare River Gold Project, N.W.T., Canada

In 1980 and 1981 a series of studies relative to the Snare river gold property at Camp Lake, Yellowknife, were undertaken. The most recent evaluation recommends an initial 2,770-ft., 9-hole drilling program at an estimated cost of $185,000 to test for vein extensions.

Implementation of this program must necessarily await improvement in gold prices and in financing conditions to fund the project.

Financial

Exploration expenditures during fiscal 1981 were $753,508 of which $122,903 was in joint venture projects.

On June 4, 1981, Anglo United issued 480,000 treasury shares to Northgate for $600,000 cash. Working capital at the end of fiscal 1981 was $379,206, compared with $612,142 at the beginning of the period.

Anglo United and its wholly-owned investment subsidiary hold 246,333 shares in Northgate.

WESTFIELD MINERALS LIMITED
(Northgate Interest — 45% direct)

Westfield is a mineral resource exploration and investment holding corporation. Its principal investments include substantial minority shareholdings in Northgate, 12.1%, Vestgron Mines Limited, 6.4%, and Whim Creek Consolidated N.L., 15.8%.

Westfield is active in oil and gas exploration and development in the United States where during 1981 it participated in the drilling of 51 prospects. A further 40 prospects of the 1981 program remained to be drilled at year end and Westfield has agreed to participate in a similar sized program in 1982.

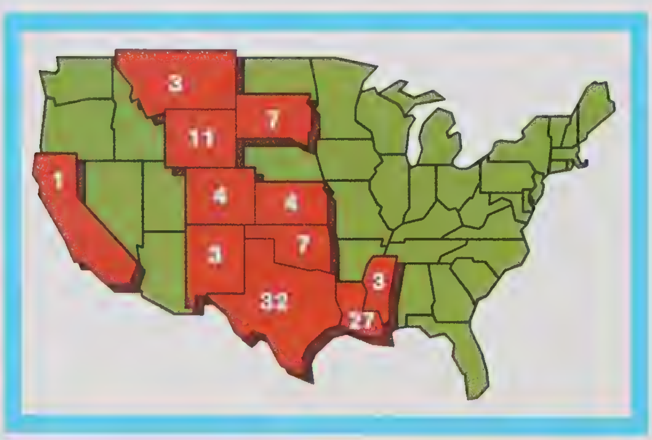
In a recent expansion of its interest in oil and gas, Westfield has acquired a 5% working interest in an onshore-offshore prospect in the Fiji Islands where drilling is expected to commence at the end of April, 1982.

Westfield's mineral exploration interests include base metal and precious metal prospects and uranium exploration interests in Canada and the United States.

Oil and Gas:

Westfield enlarged its participation in oil and gas ventures quite considerably in 1981 when it entered into an agreement to participate in a $5 million joint venture exploration programme in the United States managed by Arlington Exploration Company of Boston. Westfield participates in varying modest percentages of the joint venture's working interest and during 1981 expended $539,000. Westfield will continue its association with Arlington in its 1982 oil and gas programme. The anticipated investment by Westfield in this programme in 1982 is budgeted at $500,000. Westfield expects revenue from its U.S. oil and gas properties to commence in 1982 and to increase thereafter.

Location of Westfield's 1981 oil and gas activies.



During 1981 Westfield participated in varying percentages in the drilling of 51 prospects which included a geographically wide spread of wells testing a varying range of geological plays in Montana, South Dakota, Wyoming, Colorado, New Mexico, Texas, Kansas, Louisiana, Mississippi, Oklahoma and California. Of the 51 wells drilled in 1981, 15 were successful giving a success rate of 30%. A further 40 prospects of the 1981 programme have been identified and are expected to be drilled by mid-1982.

To complement its conventional oil and gas exploration in North America, early in 1982, Westfield acquired a 5% working interest in a two million acre licence located onshore and offshore the Fiji Islands in the south-western Pacific Ocean. Drilling of the first of three wells is expected to begin at the end of April, 1982.

Westfield has taken a 5% working interest to earn a 4.3875% interest before payout, reverting to a 3.25% interest after payout, in the 84% net revenue interest licence which is held by a joint venture group consisting mainly of Denver based independent oil and gas companies. Westfield is committed to expenditures of approximately $900,000 in 1982 in respect of its participation in a three well program.

The licence held is Oil Exploration Licence Number 7 offshore, east of the Viti Levu, the largest of the Fijiean Islands, but also includes the onshore eastern coastal area. The joint venture is operated by Bennett Petroleum Corporation of Denver and is managed by Pacific Energy and Minerals Limited of Denver.

Lying 1,000 miles north of New Zealand and 2,600 miles southeast of Indonesia, the Fiji Islands are at an early stage in oil and gas exploration. Two deep offshore tests have been drilled, by Chevron Overseas Inc. north of Viti Levu but neither intersected the reef formations considered by the joint venture group in which Westfield is participating to have the highest potential. Nevertheless, these two wells, together with 7,500 miles of seismic surveys, have shown that the Fiji plateau is underlain by a thick sedimentary rock section containing several features — mature source rocks, excellent cap rocks and numerous reef-type anomalies — considered appropriate for oil and gas. Many oil and gas seeps are known offshore Fiji, often in proximity to seismically defined reefs.

The geology and structural setting of the Fiji region is similar in many ways to the prolific oil and gas fields off Papua, New Guinea, and the Salawati Basin, Indonesia, and other producing areas of the western Pacific where production is primarily reefal. The Miocene barrier reef and the shallow water reef bodies identified by the seismic surveys within OEL 7 are believed to have substantial oil reserve potential.

With production in North America providing a sound base Westfield intends to expand its oil and gas activities by maintaining a balance between moderate risk conventional exploration and high potential higher-risk joint venture plays.

Mineral Exploration:

Westfield holds extensive mineral exploration claims in the Deer Lake and Codroy Basins of Newfoundland, which form part of the Westfield/Northgate/Shell joint venture, together with other wholly owned and optioned claims in Newfoundland and interests in properties in Ontario and Quebec.

Shell/Northgate/Westfield Joint Venture

As part of this joint venture approximately $800,000 was expended in 1981 on the Deer Lake project, in which Westfield is the manager, and approximately $200,000 on the Codroy Basin. By contributing this $1 million Shell has earned a 35% interest in these lands. Early in 1982 Shell Canada announced that it was withdrawing from mineral exploration in Canada and has informed Westfield that it will not be participating in the previously planned 1982 program but is attempting to sell its interest in the joint venture to a third party.

The 1981 exploration program was directed to the evaluation of new techniques for locating buried uranium mineralization, the completion of reconnaissance geochemical coverage over large parts of the basin previously untouched and further detailed appraisals of geochemical and radiometric anomalies. Unlike the previous year, drilling constituted a minor part in the program.

Newfoundland Exploration:

Independent of the Shell joint venture Westfield carried out exploration for base and precious metals elsewhere in Newfoundland during 1981. Westfield has acquired additional ground in Western Newfoundland and in the carbonate-zinc areas in Central Newfoundland.

A program of reconnaissance prospecting, lake and stream sediments and soil sampling successfully located anomalous zinc and four zinc occurrences. Additional geological mapping, soil sampling and basal till sampling were carried out in the indicated anomalous sectors. The program has indicated potential zinc deposits with a number of occurrences located and scheduled for detailed investigation within the 1982 program.

Quebec:

During 1981 Soquem continued exploration on the Rouyn Township property held under option from Here Fault Copper Limited a 66% subsidiary of Westfield. The work was concentrated in the environs of the former Anglo-Rouyn gold mine and included geophysical and geochemical surveys. In addition the underground plans of the old mine were reconstructed and new sections drawn.

Ontario:

In Ontario exploration work was concentrated on the optioned gold prospect in the Mishibishu Lake area near Wawa where prospecting, geophysical and geochemical surveys and channel sampling were completed.

Investments:

Westfield's principal investments consist of the following:

Northgate Exploration Limited
936,619 shares, (12.1%)

Vestgron Mines Limited,
271,810 shares, (6.4%)

Whim Creek Consolidated N.L.,
2,500,000 shares, (15.8%)

Financial:

Mineral exploration expenditures in 1981 amounted to $657,686 compared with $403,044 in the previous year. The 1981 figure does not include the expenditure on the Shell joint venture properties in Newfoundland amounting to approximately $1 million.

Consolidated net income for the year was $1,259,139 equal to $0.20 per share compared with $2,360,188 or 38¢ per share for the previous year. Major contributing factors to the 1981 income were dividends received from Vestgron totalling $1,359,050 and interest on short term deposits of $725,000.

Working capital at year end 1981 was $4,446,291, an increase during the period of $563,058 from the previous year end figure of $3,883,233.

At December 31st, 1981 Northgate's holdings in Westfield totalled 2,803,075 shares or 45% of the issued capital.

WHIM CREEK CONSOLIDATED N.L.

(Northgate interest — 30% direct, 7% indirect)

Whim Creek Consolidated N.L. is a corporation based in Western Australia which is active in gold mining, mineral exploration and development, and petroleum exploration in Australia.

Mining

Whim Creek has an 84.61% interest in the Haveluck gold mine near Meekatharra, Western Australia, which it brought into production at the end of May, 1980. The operation involves the open pit mining of a heavily oxidized ore, initial recovery in solution by heap leaching of the coarse fraction and treatment of the fine portion in a carbon-in-pulp plant, and final recovery by the carbon adsorption-desorption technique.

Excellent progress was made during 1981 in improving recoveries and streamlining the process generally. While heap leaching has a relatively long history, much of the expertise relating to its use has to be developed on-site, and adjusted to the particular unique characteristics of the ore in question. The entire operation is now running at design level and a further increase in production is expected.

During 1981 the average grade of ore mined increased to 2.09 grams of gold per tonne from 1.42 grams per tonne in 1980, as higher grade ore at greater depth in the open pit was exposed. Mining operations were largely suspended between mid-September and February 1982, to allow catch-up treatment of stockpiled ore which amounted to nearly 100,000 tonnes.

Modifications were made to the crushing and screening circuits to provide for better control of the fines content of the ore processed by heap leaching. A fine screening unit and a carbon-in-pulp plant were installed after it became apparent, during 1980, that a substantial proportion of fine material being generated was not amenable to conventional heap leaching extraction. This new plant reached its efficient operating level in the third quarter of 1981.

Overall gold recovery for 1981 was 69%. However, recovery from the carbon-in-pulp circuit in the last few months of 1981 had improved to the 80-85% range.

Whim Creek is very encouraged by the progress made with the Haveluck Mine to date. However this operation requires a gold price in the region of US$320 per oz. to cover its operating costs.

HAVELUCK PRODUCTION

	1981	1980*
Ore Mined	206,839 tonnes	167,322 tonnes
Grade	2.09 g/tonne (0.066 oz./ton)	1.42 g/tonne (0.046 oz./ton)
Ore to Leach Pads	133,554 tonnes	102,350 tonnes
Grade	1.97 g/tonne (0.062 oz./ton)	1.37 g/tonne
Ore to Carbon-in-Pulp Plant	84,221 tonnes	—
	2.45 g/tonne (0.078 oz./ton)	—
Gold Production From Leach Heaps	164,841 grams (5,278 oz.)	55,671 grams (1,790 oz.)
Recovery	68%	
From Carbon-in-Pulp	126,984 grams (4,063 oz.)	—
Recovery	69%	
Total	291,825 grams (9,341 oz.)	55,671 grams (1,790 oz.)

* Production began May 1980.

Reserves

At Dec. 31, 1981*	846,553 tonnes	1.93 g. Au/tonne (0.061 oz./ton)
At Dec. 31, 1980†	1,116,492 tonnes	1.86 g. Au/tonne (0.059 oz./ton)

* Using cut-off of 0.6 g/tonne and including 10% dilution of 0.5 g/tonne material.
† Includes 5% dilution.

Development

Within the area of the Haveluck mine, Whim Creek holds or manages, under joint venture, other gold deposits which could be processed in the Haveluck plant. These include the Fenian-Consols tailings and the Prohibition deposit.

During the year, testwork continued on the Fenian-Consols tailings which contain 625,000 tonnes averaging 1.8 grams gold per tonne.

Design of an open pit and metallurgical testing of ore are proceeding on the Prohibition property, estimated to contain 703,734 tonnes proven ore averaging 3.43 grams gold per tonne and 512,450 tonnes of possible ore at 1.06 grams per tonne.

Near Laverton, 300 miles southeast of Meekatharra, lies Whim Creek's Cork Tree Well gold deposit, which contains 210,000 proven tonnes of ore averaging 4.1 grams gold per tonne. Northgate has an option to acquire a 35% interest in the property in consideration for the provision of the financing necessary to bring the project into production.

Further metallurgical testing carried out in 1981 confirmed that the most satisfactory treatment route

Screening plant at the Haveluck Mine with the open pit in background. Gold production in 1981 was 291,825 grams.

Drilling on the Clearview gold-silver prospect in Queensland in which Northgate has a 49% interest.

for the ore will involve crushing and grinding at the Windarra mill operated by Western Mining Corporation Limited 10 miles to the south, then gold recovery at a carbon-in-pulp plant to be built by Whim Creek at the Windarra mill site. The loaded carbon will be trucked to the Haveluck mine for desorption and bullion recovery.

Tentative agreement on the physical and financial requirements for this was reached with Western Mining, but a final decision to proceed has been deferred pending an improvement in the gold price. Planning and scheduling for the open pit mine and the engineering design of the plant were completed in 1981, and tenders were called for contract mining and plant construction.

Adelaide and Walleroo Fertilisers Ltd. is preparing a feasibility study on the use of thin layer leaching to produce cement copper from the Whim Creek-Mons Cupri deposits. These oxide and sulphide deposits, south of Port Hedland, W.A., are estimated to contain about 4,395,000 tonnes averaging 1.5% copper.

Exploration

In the Murchison area further drilling for more accurate ore reserve assessment was carried out on the Pharlap, Halcyon and Gibraltar gold properties, held under the Meekatharra joint venture (Whim Creek, 84.61% interest). Geochemical sampling and mapping were carried out on the Mickey Doolan and Yaloginda properties held by the Murchison "B" joint venture in which Whim Creek is earning a 75% interest.

Joint ventures were initiated by Whim Creek in 1981 on the Mt. Morgans gold project near Laverton, with Newmont Holdings Pty. Ltd.; on the Karratha copper-nickel project near Roebourne, W.A., with Teck Explorations Ltd. and Samim Australia Pty. Ltd.; and on the Paddy's Flat gold property at Meekatharra with Chevron Exploration Corporation.

Oil exploration

Progress on Oil Exploration Permit No. 205 in the southern Canning Basin of Western Australia in which Whim Creek has a 75% interest is described in the Oil and Gas section of this report. Northgate can earn a 49% share of Whim Creek's holding in this permit.

Financial

Despite a five-fold increase in gold production and a substantial reduction in unit production costs over the previous year, Whim Creek sustained an operating loss of A$1,116,919 in 1981. The average price realized for gold in 1981 was A$12.87 per gram (US$460 per oz.) compared with A$18.96 per gram (US$678 per oz.) in 1980. Whim Creek reported a consolidated loss of A$1,303,186 in 1981 which included a write-off of A$341,489 for exploration costs and a surplus of A$155,222 on the sale of fixed assets.

During the year, Northgate guaranteed a bank loan of A$1.5 million provided to Whim Creek. In consideration for this guarantee Northgate was given options to earn interests in the Cork Tree Well project and selected exploration projects by incurring expenditures on these projects.

Principal Investment Holdings

VESTGRON MINES LIMITED
(Northgate interest — 5.2% direct, 2.9% indirect)

Vestgron Mines Limited, 62.5% owned by Cominco Ltd., is a holding company with one wholly-owned subsidiary, Greenex A/S. Greenex A/S is a Danish company which owns and operates the Black Angel mine at Marmorilik on the west coast of Greenland, approximately 500 km north of the Arctic Circle. The mine produces zinc concentrate and a silver-bearing lead concentrate.

Vestgron reported net earnings for 1981 of \$7,821,000 or \$1.85 per share, compared with \$11,410,000 or \$2.70 per share in 1980. Zinc concentrate prices and sales volumes were higher in 1981 than in 1980 but these gains were partially offset by lower prices and sales volume of lead concentrate. The continued weakening of the Danish Krone in relation to the Canadian dollar resulted in an exchange loss of \$3.7 million on translation of the Greenex accounts compared with a loss of \$2.9 million in 1980.

Revenue was \$73,924,000 in 1981 compared with \$76,074,000 in 1980. Credit for silver recovered from lead concentrate contributes significantly to revenue.

Sales of zinc concentrate in 1981 totalled 158,500 tonnes compared with 152,000 tonnes in 1980. Lead concentrate sales amounted to 40,000 tonnes compared with 41,800 tonnes in 1980.

The Greenex concentrator treated 640,100 tonnes of ore averaging 13.5% zinc and 4.7% lead in 1981, and 648,000 tonnes of ore averaging 13.4% zinc and 5.3% lead in 1980. Production totalled 139,800 tonnes of zinc concentrate and 38,100 tonnes of lead concentrate in 1981, and 151,900 tonnes of zinc concentrate and 42,000 tonnes of lead concentrate in 1980.

At December 31, 1981, ore reserves were 2,756,000 tonnes grading 13.5% zinc, 4.2% lead and 31 grams of silver per tonne.

Surface exploration was carried out in two areas at a cost of \$2.8 million in 1981. About three kilometres east of the mine, where the ore-bearing formations lie 600 metres below a glacier surface, two holes drilled as part of a widely-spaced grid intersected ore grade mineralization. This encouraging new discovery as it is described by Vestgron will be the object of drilling in 1982. The other area of investigation, 4.5 km south of the concentrator, underwent drilling which added to the extent of mineralization first located in 1980. With inferred reserves in the 200,000-300,000 tonnes range to date, the merit of underground exploration is being evaluated.

Vestgron paid dividends totalling \$5.00 per share in 1981, the same amount as paid in 1980. Northgate received \$1,100,000 in Vestgron dividend payments in 1981, while associated Westfield Minerals Limited received \$1,359,050.

The cableway on left is the transportation link between Black Angel Mine, 600 metres above sea level, and the concentrator below 1,500 metres away across the fjord. The Black Angel Mine is located at Marmorilik, on the west coast of Greenland, approximately 500 km north of the Arctic Circle.

BRASCAN LIMITED
(Northgate interest — approximately 6% indirect)

As part of the transaction in which Northgate purchased the Canadian mining assets of Patiño, N.V., your Corporation acquired an approximate 6% indirect interest in Brascan Limited, a prominent Canadian investment management company with holdings in the natural resource, consumer product and financial services sectors.

This interest is held through Northgate's 35% equity in Patiño Mining, N.V., which owns 95% of Patiño, N.V. The principal asset of Patiño, N.V. is now its 34% shareholding in Edper Equities Limited which in turn owns approximately 49% of Brascan.

Brascan reported net income of $108 million or $3.30 per share in 1981, compared with net income of $86 million or $3.17 per share in 1980.

During 1981 Brascade Resources Inc., a corporation owned 70% by Brascan and 30% by Caisse de depot et placement du Quebec, acquired 37% of the outstanding common shares of Noranda Mines Limited, and 60% of Noranda's convertible preferred shares.

TARA EXPLORATION AND DEVELOPMENT COMPANY LIMITED
(Northgate interest — 9.8%)

Through its 75%-owned subsidiary, Tara Mines Limited, Tara Exploration and Development Company Limited owns and operates a zinc-lead mine at Navan, Ireland. Tara Exploration and Development is itself principally owned by a consortium of major corporate shareholders which includes, in addition to Northgate, Noranda and Cominco of Canada and Charter Consolidated of England.

Production at the Tara mine was halted in early July 1981 by a strike of craftsmen, which continued until February, 1982. Consequently the mine only operated for approximately six months in 1981.

During 1981, 830,557 tonnes of ore averaging 13.5% zinc and 2.8% lead were milled. Zinc concentrate production amounted to 175,680 tonnes and lead concentrate production to 27,555 tonnes. Comparable amounts for 1980 were: 1,882,652 tonnes of ore averaging 11.6% zinc and 2.2% lead milled to produce 354,349 tonnes of zinc concentrate and 52,416 tonnes of lead concentrate.

Tara Exploration's net loss for 1981 was $9,972,000 compared with a net profit of $108,000 in 1980.

Reserves at the Navan mine, as reported by Tara Exploration, at December 31, 1980, totalled 59,939,700 tonnes of an undiluted average grade of 9.9% zinc and 2.7% lead.

Above and below surface at Tara's Navan Mine, the largest zinc-lead operation in Europe. The 7,000 tonne per day capacity concentrator complex is shown at right, opposite is one of the lofty underground stopes.

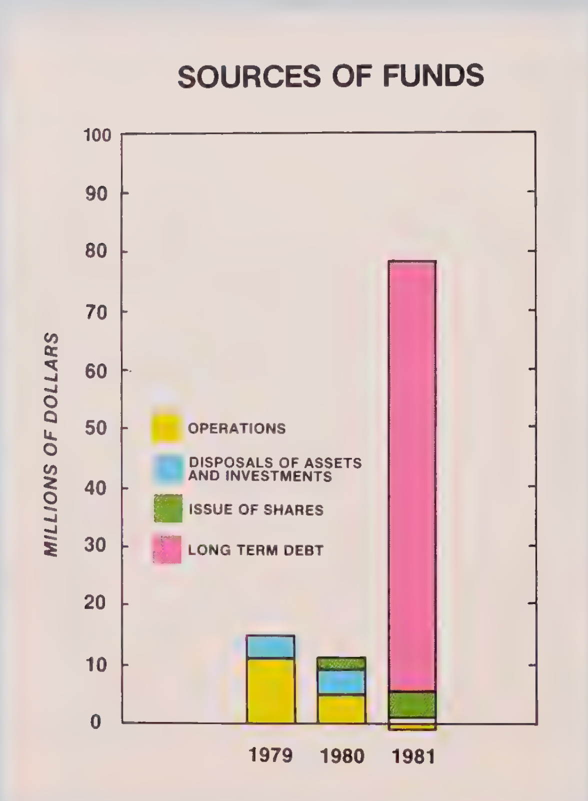
Management's Discussion and Analysis of Financial Condition and Results of Operations for the Three Years Ended December 31, 1981, 1980 and 1979

Liquidity

Working capital amounted to $12,682,000 at December 31, 1981, following a decline of $22,205,000 in 1981 and increases of $3,244,000 and $6,027,000 in 1980 and 1979 respectively.

The principal reason for the decline in working capital in 1981 was the use of $20,489,000 of internal cash resources to finance in part the purchase of all the outstanding shares of Patiño Mining Investments Limited (PMI). The balance of the purchase price was financed through bank lines of credit. The purchase also included a number of smaller companies holding non-producing mineral properties in Canada and the United States.

The main source of working capital in 1981 was the long term debt of $73,487,000 incurred in connection with the acquisition of PMI and the 35% shareholding in Patiño Mining, N.V. (PMNV). In addition, during 1981, 617,000 common shares were issued for a cash consideration of $4,296,000.



Operations in 1981 consumed $857,000 in working capital compared with contributions to working capital of $4,824,000 and $10,518,000 in 1980 and 1979 respectively. Operating results for 1981 include only four months' results in respect of the three Canadian mining operations acquired in the third quarter of 1981. They also include the results from the treatment in 1981 of the surface stockpile of silver oxide ore at the Tynagh mine in Ireland. Results from both the Canadian and Irish operations were adversely affected by the depressed level of metal prices, in particular of copper, gold and silver, in the latter part of the year.

The pro-forma consolidated working capital derived from the operations of the Corporation would have been $15,870,000 in 1980 and a deficiency of $385,000 in 1981 if the acquisition of the Canadian mining operations had taken place with effect from January 1, 1980.

Pre-tax working capital derived from the mining operation at the Tynagh mine in 1980 and 1979 amounted to $5,143,000 and $19,883,000 respectively. The decline in working capital derived from this source in 1980 was mainly because of the termination of the underground mining operation at Tynagh at the end of July, 1980.

A significant source of liquidity during the three years ended December 31, 1981, was non-operating revenue which totalled $7,089,000, $7,011,000 and $3,489,000, pre-tax, in 1981, 1980 and 1979 respectively, and was largely derived from the Corporation's holdings of cash and short term investments which increased from $28,812,000 at December 31, 1978, to $39,968,000 at December 31, 1980. Because of the $20,489,000 of internal cash resources applied to the acquisition of the shares of PMI in the third quarter of 1981, this source of liquidity will decline in 1982.

The principal source of working capital from operations in 1982 is expected to be the three Canadian mining operations acquired in 1981. Present plans are to mill 652,000 tons of ore averaging 1.73% copper and 0.067 oz. of gold per ton from the Copper Rand mine; 181,500 tons grading 1.70% copper and 0.066 oz. of gold per ton from the Portage Island mine; and 85,600 tons grading 2.58% copper, 0.084 oz. of gold and 1.39 oz. of silver per ton and 7.62% zinc from the Lemoine mine.

Working capital derived from these operations in 1982 will primarily depend on the prices of copper and gold. The prices of both metals in current dollars were historically high in 1980 but declined significantly in 1981 and have continued to decline since the end of the year. Average settlement prices received by the Canadian mining operations in 1981 represented 82.3% of the average price received in 1980 in the case of copper and 77.6% of the average 1980 price in the case of gold. However, because current copper prices are at their lowest level in constant dollars since 1946, which in the case of many producers are lower than their production costs, and because of the low level of copper inventories which in terms of consumption represent only approximately seven weeks, the Corporation is confident that copper prices will begin to improve in the near term. The extent and timing of the improvement will depend upon general economic conditions, and in particular on the effectiveness of the economic programs of the U.S. government and their impact on other consuming nations.

Costs of production and supply play a less important role in determining the price of gold because of the influence of inflation, interest rates and speculative factors. The price has continued to decline since the end of the year with the result that the outlook for the medium term is uncertain.

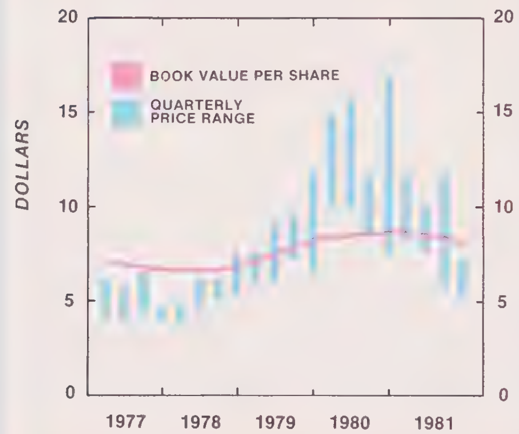
Because of the long term debt incurred in connection with the acquisition of the Canadian mining operations, the level of interest rates will have a significant effect on working capital derived from these operations in 1982. Interest rates in 1980 and 1981 were at historically high levels but late in 1981 and in the early part of 1982 declined several percentage points from these levels.

Proven and probable ore reserves at December 31, 1981, amounted to 4,965,000 tons averaging 1.81% copper and 0.057 oz. gold per ton at Copper Rand and 2,526,000 tons averaging 1.75% copper and 0.067 oz. gold per ton at Portage Island. Mining operations at these two properties will therefore be an important source of working capital in future years. Because of exhaustion of the ore reserves, mining operations at the Lemoine mine are expected to terminate about September, 1982.

The Corporation continues to carry out exploration and development work and feasibility studies on a number of non-producing mineral properties in Canada, the United States and Australia. These properties may be brought into production at some future date and thus yield further sources of working capital to the Corporation.

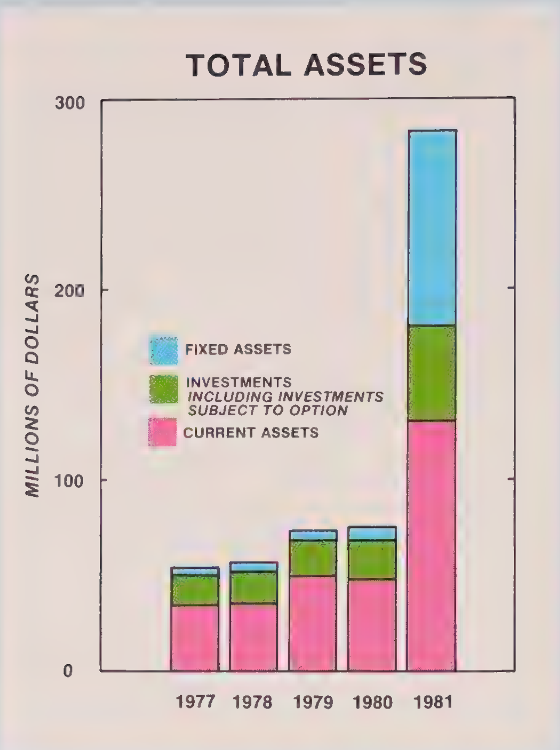
Other potential sources of liquidity are the Corporation's interests in oil and gas properties and investments which amounted to $7,210,00 and $49,589,000 respectively, at December 31, 1981. Investments at December 31, 1981, include associated companies with a book value of $6,340,000 and a market value of $9,035,000; marketable securities with a book value of $13,250,000 and a market value of $11,645,000; and a 35% shareholding in Patiño Mining, N.V. with a book value of $29,506,000.

FIVE YEAR QUARTERLY SHARE PRICE RANGE AND BOOK VALUE PER SHARE 1977-1981



The investment in PMNV was acquired in 1981. PMNV owns 95% of Patiño, N.V. whose principal asset is a 34% shareholding in Edper Equities Limited (Edper) which owns an approximate 49% shareholding in Brascan Limited. As a result of this acquisition, therefore, the Corporation owns an approximate 6% indirect interest in Brascan Limited.

The investment in PMNV is subject to a shareholders' agreement with Patiño Antilles, N.V. (PANV), the owner of the remaining 65% of PMNV, which provides among other things that the Corporation has the right, under certain circumstances, to require PANV to purchase its 35% shareholding in PMNV at the Corporation's carrying cost. PANV has the right to require the Corporation at any time prior to December 1983 to sell its shareholding in PMNV to PANV at the same price. Dividends or other distributions payable to the Corporation may only be paid from funds of PMNV derived from its interest in Edper.



Capital Resources

During 1981, total working capital expended by the Corporation amounted to $100,258,000 compared with $7,947,000 in 1980 and $8,672,000 in 1979. The principal applications of working capital in 1981 were $61,959,000 in respect of the acquisition of PMI and certain other companies, net of working capital acquired, and a $30,206,000 increase in investments primarily in respect of the acquisition of the 35% shareholding in PMNV including carrying charges to the end of 1981.

Expenditures on property, plant and equipment in 1981 amounted to $8,093,000 compared with $5,996,000 in 1980 and $2,807,000 in 1979. The principal additions in 1981 were $4,604,000 for oil and gas properties and $2,853,000 for capital expenditures on the Canadian mining operations. Proceeds on disposal of property, plant and equipment amounted to $803,000 in 1981 compared with $2,660,000 in 1980 and $63,000 in 1979.

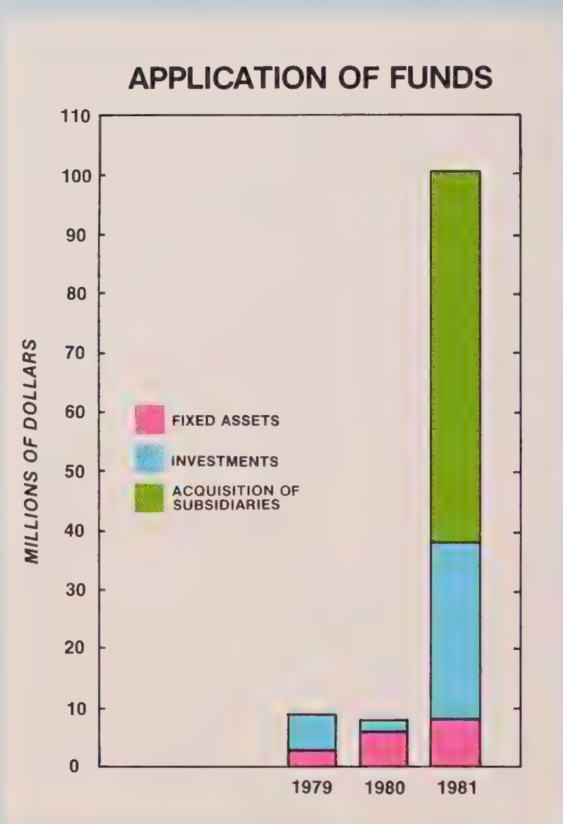
The Corporation is committed to participation in a program for the exploration and development of oil and gas involving expenditures of $3,000,000 in each of 1982 and 1983. As at December 31, 1981, the Corporation had no other material commitments for capital expenditure.

Shareholders' equity at December 31, 1981, stood at $63,154,000 ($8.14 per share) compared with a restated $62,946,000 ($8.81 per share) at December 31, 1980.

The Corporation has an authorized capital of 5,000,000 Class A preference shares, 5,000,000 Class B preference shares and 15,000,000 common shares of which 7,762,399 common shares were issued at December 31, 1981, 7,145,399 common shares at December 31, 1980.

The Corporation's long term debt at December 31, 1981, amounted to $94,290,000 (US$79,510,000) compared with nil at the end of 1980. The debt comprises a revolving loan of $65,153,000 (US$54,940,000) incurred in connection with the acquisition of PMI, including $22,000,000 (US$18,500,000) in the acquired companies. This loan is convertible into a reducing term loan at December 31, 1982, and is repayable in 18 equal semi-annual instalments commencing June 30, 1983 with a final maturity date of December 31, 1991.

The remainder of the long term debt is a term loan of $29,137,000 (US$24,570,000) incurred in connection with the acquisition of PMNV. The loan is available up to a limit of US$40 million to finance the cost of this investment plus carrying charges and is repayable on December 31, 1983. The Corporation has the right in December, 1983 to require Patiño Antilles, N.V. to purchase its 35% shareholding in PMNV to enable the Corporation to repay the loan if the Corporation is unable to refinance the loan on commercially reasonable terms.



The Corporation's plans and commitments for 1982 include the expansion of the production capacity of the Portage Island mine and the acquisition of oil and gas properties in Canada and the U.S.A. In order to be able to fund these capital expenditure programs and at the same time maintain an adequate level of working capital, discussions are currently taking place with the Corporation's bankers and others regarding additional long term financing arrangements.

Results of Operations

Results for the year ended December 31, 1981, include four months revenue and expenses relating to the Canadian mining operations acquired effective September 1, 1981.

Consolidated loss for the year ended December 31, 1981, amounted to $4,088,000 or 55¢ per share compared with a restated consolidated net income of $3,800,000 or 54¢ per share for the year 1980 and $9,550,000 or $1.39 per share ($1.33 fully diluted) for 1979.

The decline in net income in 1981 compared with 1980 was principally attributable to the interest expense of $4,301,000 incurred in 1981 (1980 – nil) and the increase in amortization and depreciation from $935,000 in 1980 to $4,405,000 in 1981. The 1981 interest expense mainly related to the debt incurred in connection with the acquisition of the Canadian mining operations while the increase in amortization and depreciation of $3,470,000 was primarily attributable to the mining properties, plant and equipment included in the acquisition.

Other factors contributing to the decline in net income in 1981 were a decrease in revenue from metal production of $3,359,000, an increase in mining expenses of $1,782,000 and an increase in administrative and general expenses of $1,234,000.

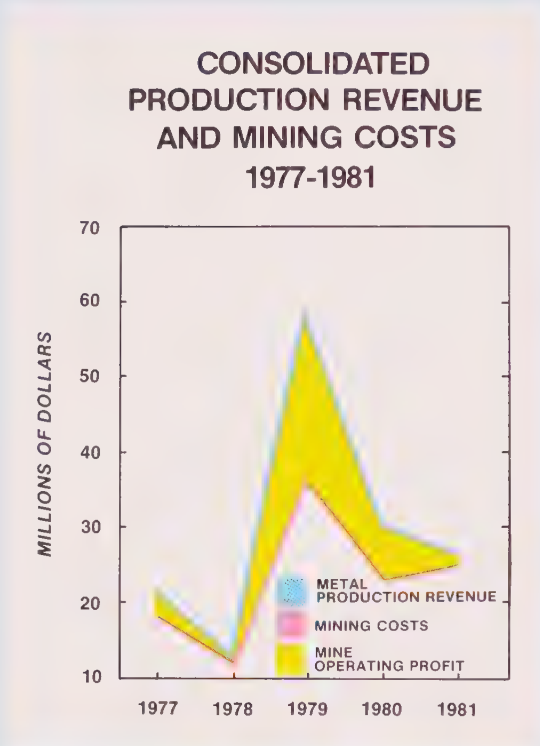
The decrease in revenue from metal production in 1981 was mainly attributable to a change in the mix of ores treated in 1981 and lower metal prices, in particular silver and copper.

During 1981 the tonnage and grades of ore treated were as follows:

		Grades				
	Tons	Copper (%)	Gold (oz./ton)	Silver (oz./ton)	Zinc (%)	Lead (%)
Canadian mines (Sept. 1 to Dec. 31)						
Copper Rand	217,583	1.58	0.067	0.25		
Portage Island	47,152	1.56	0.088	0.28		
Lemoine	35,509	3.28	0.103	1.60	7.44	
Tynagh Mine	120,442	0.29		7.57	0.56	3.07
	420,686					

In 1980 the Tynagh mine treated 360,878 tons of ore grading 4.52% lead, 3.39% zinc, 0.27% copper and 1.32 oz. of silver per ton.

The increase in mining expenses was mainly attributable to the higher tonnage of ore treated in 1981 – 420,686 tons compared with 360,878 in 1980.



The higher level of corporate activities and the broader scope of the Corporation's operations as a result of the recent acquisition were the main reasons for the increase of $1,234,000 in administrative and general expenses during 1981.

During the year the Corporation changed its method of accounting for deferred exploration capitalized by its associated companies to conform with its policy whereby such expenditures are charged to income. As a result of this change, which has been applied retroactively, the carrying value of such investments has been reduced by $2,825,000 to December 31, 1981. Net income for 1981, 1980 and 1979 has been reduced by $749,000, $596,000 and $145,000 respectively. The balance of $1,335,000 is applicable to 1978 and prior years and retained earnings have been adjusted accordingly.

Currency translation gains during 1981 amounted to $1,595,000 compared with $750,000 in 1980.

These gains mainly comprised translation gains less losses in relation to the Corporation's foreign currency assets and liabilities.

The pre-tax loss of $6,665,000 incurred in 1981 was partly offset by a tax recovery of $2,577,000. In 1980 pre-tax income of $6,836,000 was reduced by a tax expense of $3,036,000.

The decline in net income for 1980 compared with 1979 was principally attributable to the termination of underground mining operations at the Tynagh mine at the end of July 1980, lower ore grades and a 37% decline in lead prices. As a result of these adverse factors, operating income in 1980 declined to $4,208,000 compared with $18,581,000 in 1979.

The increase in interest income from $3,054,000 in 1979 to $5,147,000 in 1980 was attributable to the improvement through 1979 and 1980 in the Corporation's liquidity as reflected in the increase in its cash and short term investments from $28,812,000 at December 31, 1978, to $39,968,000 at December 31, 1980. Higher average interest rates in 1980 were also a significant contributing factor to the increase in interest income in 1980.

The increase in dividends and sundry income from $435,000 in 1979 to $1,864,000 in 1980 was mainly attributable to an increase in dividends from the Corporation's holding of 220,000 shares in Vestgron Mines Limited. Dividends on these shares amounted to $5 per share in 1980 and this dividend was maintained in 1981.

During 1982 the Corporation plans to mine and mill the following tonnages and grades of ore:

	Tons	Copper (%)	Gold (oz./ton)	Silver (oz./ton)	Zinc (%)
Canadian mines					
Copper Rand	652,000	1.73	0.067	0.27	
Portage Island	181,500	1.70	0.066	0.27	
Lemoine	85,600	2.58	0.084	1.39	7.62
	919,100				

The profitability of these operations in 1982 will largely depend on the level of metal prices, in particular copper and gold.

Depreciation and amortization expense will increase substantially in 1982 because of a full year's charge in respect of the mining properties, plant and equipment acquired in 1981.

Interest expense will also increase substantially in 1982 because of a full year's expense in relation to the revolving loan of $65,153,000 (US$54,940,000) and the Corporation's working capital loan facility.

Interest income for 1982 will decline significantly from the $5,560,000 earned in 1981 because of the use of $20,489,000 of internal cash resources in 1981 to finance in part the acquisition of the Canadian mining operations.

Exploration expense in 1982 will decline compared with 1981 as a result of a planned reduction in the level of mineral exploration expenditures outside of the mineral properties recently acquired in the Chibougamau area of Quebec, Canada.

CONSOLIDATED FINANCIAL STATEMENTS

Accounting Policies

The Corporation's principal accounting policies are in accordance with generally accepted accounting principles in Canada and, except as disclosed in items A and H below and in note 3, are also in all material respects in accordance with policies generally accepted in the United States.

A. Intercorporate investments

(i) Subsidiaries

The consolidated financial statements include the accounts of the Corporation and its subsidiary companies, the most significant of which are Northgate Patino Mines Inc. and Irish Base Metals Limited.

(ii) Associated companies

The Corporation accounts for its investment in associated companies by the equity method. Under the equity method, the Corporation's equity in earnings or losses of associated companies is reflected in the consolidated statement of income and an adjustment is made to the value at which the investment is carried on the balance sheet.

The companies accounted for on the equity basis are as follows:

	Equity in shares	
	1981	1980
Westfield Minerals Limited	45%	45%
Whim Creek Consolidated N.L.	30%	30%
Anglo United Development Corporation Limited	35%	31%
Irish Wire Products Limited	24%	24%

(iii) Other investments

Other investments are carried at cost less a provision for any permanent decline in value, if applicable, except for investments which the Corporation has a right to sell and recover its cost plus carrying charges; such investments are carried at cost plus accrued carrying charges.

Application of generally accepted accounting practice followed in the United States, where marketable securities are carried at the lower of cost and market value, would have necessitated valuation allowances of $1,605,000 in 1981 and $1,202,000 in 1979. These valuation allowances would have been shown as net unrealized losses in the shareholders' equity section of the related balance sheets and not as charges in the respective statements of income.

B. Currency translation

Currency balances other than those in Canadian dollars are translated as follows:

(i) Current assets, current liabilities and long term debt, at year-end rates; all other assets and liabilities, at historical rates.

(ii) Revenue and expense transactions at the average rate of exchange prevailing during the year except for depreciation, amortization and deferred taxes which are translated at historical rates.

Exchange gains and losses are included in income in the period in which incurred.

C. Inventories

Concentrates and metal on hand are valued at estimated net realizable value and supplies at most recent purchase price.

D. Mineral exploration

The Corporation charges mineral exploration expenditures to income in the period in which incurred.

E. Mining interests

Expenditures on the acquisition and development of non-producing mining properties are capitalized until production commences. Provision for loss is made where there is no further interest in a property. Producing mining properties together with deferred mine development expenditures are amortized over the life of the estimated ore reserves on the unit-of-production basis.

F. Fixed assets

Fixed assets are recorded at cost and are depreciated on a straight line basis over their estimated useful lives.

G. Oil and gas properties

The Corporation accounts for its oil and gas activities under the successful efforts method. Under this method, property acquisition costs, together with related intangible drilling and development costs, are capitalized on a project-by-project basis. Expenditures on successful projects are amortized on the unit-of-production basis and costs of unsuccessful projects are charged to income.

H. Earnings per share

Earnings per share are calculated using the weighted average number of shares outstanding. Under United States accounting practice the calculation of earnings per share differs from the method accepted in Canada. The primary earnings per share basis used in the United States would not have differed by more than 3% from Canadian earnings per share figures.

Auditors' Report

To the Shareholders of
Northgate Exploration Limited

We have examined the consolidated balance sheets of Northgate Exploration Limited as at December 31, 1981 and 1980 and the consolidated statements of income, retained earnings and changes in financial position for the three years ended December 31, 1981. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

In our opinion, these consolidated financial statements present fairly the financial position of the Corporation as at December 31, 1981 and 1980 and the results of its operations and the changes in its financial position for the three years ended December 31, 1981 in accordance with generally accepted accounting principles applied, after giving retroactive effect to the change, with which we concur, in the method of accounting for deferred exploration expenditures of associated companies as described in note 3(b), on a consistent basis.

Thorne Riddell
Chartered Accountants

Toronto, Canada
February 26, 1982

Northgate Exploration Limited
(Incorporated under the laws of Ontario)

Consolidated Balance Sheets *as at December 31, 1981 and 1980*
Expressed in thousands of Canadian dollars

ASSETS	1981	1980
Current Assets		
Cash, including short-term securities, deposits and accrued interest	$ 17,545	$39,968
Accounts receivable and prepaid expenses	2,509	1,445
Smelter settlements outstanding, at estimated net realizable value	2,873	1,714
Concentrates and metal on hand	19,991	4,621
Supplies	2,369	366
Investment subject to option (US$74.1 million) (note 2(a))	87,852	
	133,139	48,114
Investments (note 3)	49,589	20,700
Property, Plant and Equipment		
Mining interests	73,761	1,486
Fixed assets	26,778	13,432
Oil and gas interests	7,210	3,549
	107,749	18,467
Less accumulated depreciation and amortization	4,681	10,792
	103,068	7,675
	$285,796	$76,489

LIABILITIES	1981	1980
Current Liabilities		
Bank advances (note 5)	$ 97,005	$ 203
Accounts payable	4,945	905
Accrued liabilities	9,020	2,394
Income taxes and mining duties payable	9,487	9,725
	120,457	13,227
Long Term Debt (note 4)	94,290	
Deferred Income Taxes	7,895	316
SHAREHOLDERS' EQUITY		
Capital Stock (note 8)		
Authorized		
5,000,000 Class A preference shares (1980 — Nil)		
5,000,000 Class B preference shares (1980 — Nil)		
15,000,000 Common shares of $1 par value (1980 — 10,000,000 shares)		
Issued		
7,762,399 Common shares (1980 — 7,145,399)	7,762	7,145
Contributed Surplus	12,558	8,879
Retained Earnings	42,834	46,922
	63,154	62,946
	$285,796	$76,489

Subsequent event (note 2)
Commitment (note 10)
Guarantees (note 11)

Approved by the Board

Pat. J. Hughes. S. P. Boland

P. J. Hughes, Director S. P. Boland, Director

The accompanying notes form an integral part of these statements.

Northgate Exploration Limited

Consolidated Statements of Income

YEARS ENDED DECEMBER 31, 1981, 1980 and 1979
Expressed in thousands of Canadian dollars

	1981	1980	1979
Revenue			
Metal production	$27,626	$30,985	$58,864
Interest income	5,560	5,147	3,054
Dividends and sundry income	1,529	1,864	435
	34,715	37,996	62,353
Expenses			
Mining	25,260	23,478	36,405
Administrative and general	3,598	2,364	2,576
Depreciation and amortization	4,405	935	1,302
Interest (long term — $3,618)	4,301		
	37,564	26,777	40,283
Income (loss) before the undernoted	(2,849)	11,219	22,070
Exploration	4,418	5,141	3,657
Currency translation (gains) losses	(1,595)	(750)	1,288
Equity in associated companies			
Gain on issue of shares		(483)	
Share of loss	993	475	75
	3,816	4,383	5,020
Income (loss) before income and mining taxes	(6,665)	6,836	17,050
Income and mining taxes (recovery)	(2,577)	3,036	7,500
Net income (loss)	$ (4,088)	$ 3,800	$ 9,550
Earnings (loss) per share			
Basic	$(0.55)	$0.54	$1.39
Fully diluted	$(0.55)	$0.54	$1.33

Consolidated Statements of Retained Earnings

YEARS ENDED DECEMBER 31, 1981, 1980 and 1979
Expressed in thousands of Canadian dollars

	1981	1980	1979
Balance at beginning of year (as restated — note 3(b))	$46,922	$43,122	$33,572
Net income (loss)	(4,088)	3,800	9,550
Balance at end of year	$42,834	$46,922	$43,122

The accompanying notes form an integral part of these statements.

Consolidated Statements of Changes in Financial Position

YEARS ENDED DECEMBER 31, 1981, 1980 and 1979

Expressed in thousands of Canadian dollars

	1981	1980	1979
Working capital derived from			
Operations			
Net income (loss)	$ (4,088)	$ 3,800	$ 9,550
Items not affecting working capital			
Depreciation and amortization	4,405	935	1,302
Oil and gas expenditures written off	821	550	437
Equity in associated companies	993	(8)	75
Gain on disposal of assets	(408)	(732)	(132)
Unrealized exchange gains on long term debt	(1,197)		
Deferred and other income taxes	(1,496)	248	(665)
Other items	113	31	(49)
	(857)	4,824	10,518
Long term debt	73,487		
Issue of shares	4,296	2,283	
Proceeds on disposal of property, plant and equipment	803	2,660	63
Reduction in investments	324	1,424	4,118
	78,053	11,191	14,699
Working capital applied to			
Acquisition of subsidiary, net of working capital acquired	61,959		
Additions to property, plant and equipment	8,093	5,996	2,807
Additions to investments	30,206	1,951	5,865
	100,258	7,947	8,672
Increase (decrease) in working capital	(22,205)	3,244	6,027
Working capital at beginning of year	34,887	31,643	25,616
Working capital at end of year	$ 12,682	$34,887	$31,643
Changes in components of working capital			
Increase (decrease) in current assets			
Cash, including short term securities, deposits and accrued interest	$ (22,423)	$ 5,500	$ 5,656
Accounts receivable and prepaid expenses	1,064	73	562
Smelter settlements outstanding	1,159	(3,809)	5,409
Concentrates and metal on hand	15,370	(3,080)	2,730
Supplies	2,003	(425)	174
Investment subject to option	87,852		
	85,025	(1,741)	14,531
Increase (decrease) in current liabilities			
Bank advances	96,802	(212)	(2,250)
Accounts payable	4,040	347	90
Accrued liabilities	6,626	(3,568)	2,184
Income taxes and mining duties payable	(238)	(1,552)	8,480
	107,230	(4,985)	8,504
Increase (decrease) in working capital	$ (22,205)	$ 3,244	$ 6,027

The accompanying notes form an integral part of these statements.

Notes to Consolidated Financial Statements

DECEMBER 31, 1981, 1980 and 1979

Tabular amounts expressed in thousands of Canadian dollars

1. **Accounting Policies**

The principal accounting policies followed by the Corporation are summarized on pages 39 and 40.

2. **Acquisition of subsidiaries**

(a) General

Effective August 31, 1981 the Corporation purchased all of the outstanding shares of Patiño Mining Investments Limited, a Canadian corporation, and certain other companies from Patiño, N.V. of The Netherlands, for US$123.6 million.

As part of the acquisition the Corporation acquired an indirect 34% interest in Edper Equities Limited. On January 11, 1982 this interest was sold to Patiño, N.V. for US$74.1 million.

(b) Basis of accounting

(i) The acquisition has been accounted for by the purchase method and the Corporation's financial statements for the year ended December 31, 1981 include the results of the acquired companies from August 31, 1981.

(ii) The net assets acquired at assigned values were as follows:

Working capital including investment subject to option	$ 86,933
Property, plant and equipment	93,032
	179,965
Less non-current liabilities	31,073
Net cash consideration	$148,892

The Corporation financed this acquisition as follows:

Internal cash resources	$ 20,489
Long term bank indebtedness (note 4)	43,686
Short term bank advances	84,717
	$148,892

The short term bank advances were repaid in January 1982 from the proceeds of sale of the interest in Edper Equities Limited.

3. **Investments**

(a) Summary

	1981	1980
Associated companies (quoted market value — $9,035,000; 1980 — $28,932,000)		
Westfield Minerals Limited	$ 3,641	$ 3,112
Whim Creek Consolidated N.L.	91	673
Anglo United Development Corporation Limited	2,208	2,548
Irish Wire Products Limited	400	400
	6,340	6,733
Marketable securities (quoted market value — $11,645,000; 1980 — $15,735,000)		
Tara Exploration and Development Company Limited	9,410	9,410
Vestgron Mines Limited	3,300	3,300
Other	540	540
	13,250	13,250
Unquoted investments and advances, including employee loans of $342,000 (1980 — $666,000)	493	717
Patiño Mining, N.V.	29,506	
	$49,589	$20,700

Because of the number of shares held in certain companies, the quoted market values are not necessarily indicative of the value of such investments.

(b) Associated companies

(i) Change in accounting

During the year the Corporation changed its method of accounting for deferred exploration capitalized by its associated companies to conform with its policy whereby such expenditures are charged to income. As a result of this change, which has been applied retroactively, the carrying value of such investments has been reduced by $2,825,000 to December 31, 1981. Net income for 1981, 1980 and 1979 has been reduced by $749,000, $596,000 and $145,000 respectively. The balance of $1,335,000 is applicable to 1978 and prior years and retained earnings has been adjusted accordingly.

Under accounting practice in the United States, the prior period adjustment of $2,076,000 would have been charged to income in 1981.

(ii) Summarized financial information

A summary of the combined balance sheets as reported by the associated companies is as follows:

	1981	1980
Working capital	$ 4,718	$ 4,677
Investments	5,743	5,941
Other assets, net	9,363	9,532
Shareholders' equity	$19,824	$20,150

The combined net loss as reported by the associated companies for 1981 was $1,093,000 (1980 — $290,000; 1979 — $736,000).

Under its accounting policies, the Corporation's share of losses of associated companies since acquisition to December 31, 1981 amounts to $4,707,000 ($3,714,000 at December 31, 1980).

(c) Patiño Mining, N.V.

On November 3, 1981 the Corporation purchased from Patiño Antilles, N.V. ("PANV") 35% of the shares of Patiño Mining, N.V. ("PMNV") for US$24 million. PMNV owns 95% of Patiño, N.V. whose principal asset since January 11, 1982 is a 34% shareholding in Edper Equities Limited, which owns an approximate 49% shareholding in Brascan Limited. As a result of this acquisition the Corporation holds an approximate 6% indirect interest in Brascan Limited.

This investment is subject to a shareholders' agreement with PANV, the owner of the remaining 65% of PMNV, which provides among other things that the Corporation has the right, under certain circumstances, to require PANV to purchase its 35% shareholding in PMNV at the Corporation's carrying cost. PANV has the right to require the Corporation at any time prior to December, 1983 to sell its shareholding in PMNV to PANV at the same price. Dividends or other distributions payable to the Corporation on this investment may only be paid from funds of PMNV derived from its interest in Edper Equities Limited.

4. Long term debt

	US$	Cdn$
Revolving loan	$54,940	$65,153
Term loan	24,570	29,137
	$79,510	$94,290

The revolving loan was incurred in connection with the acquisition of Patiño Mining Investments Limited. The loan may be repaid and reborrowed up to a limit of US$55 million until December

31, 1982 at which time it is convertible into a reducing term loan, repayable in 18 equal semi-annual instalments commencing June 30, 1983 with a final maturity date of December 31, 1991.

The term loan was incurred in connection with the acquisition of Patiño Mining, N.V. ("PMNV"). The loan is available up to a limit of US$40 million to finance the cost of this investment plus carrying charges and is repayable on December 31, 1983. The Corporation has the right in December, 1983 to require Patiño Antilles, N.V. to purchase its 35% shareholding in PMNV to enable the Corporation to repay the loan if the Corporation is unable to refinance the loan on commercially reasonable terms.

Until December 31, 1982 interest on these loans is, at the Corporation's option, either the base rate for U.S. dollar loans of the Corporation's banker plus ¼%, or the Bank's London inter-bank offered rate for Eurodollars plus ¾%. All loans are secured by fixed and floating charge debentures on the assets and undertaking of Northgate Patino Mines Inc. and a pledge of the shares of Patiño Mining, N.V.

The loan agreements contain certain restrictive covenants and various undertakings relating to working capital and funded debt of the Corporation and Northgate Patino Mines Inc.

5. Bank Advances

Bank advances of $13,490,000 are secured by an assignment of the accounts receivable and inventories of Northgate Patino Mines Inc. The balance of the bank advances was repaid on January 11, 1982.

6. Pro Forma Consolidated Statement of Income

The following table summarizes the unaudited pro forma consolidated results of operations of the Corporation as if the acquisition referred to in note 2 had taken place with effect from January 1, 1980.

	Year ended December 31,	
	1981	1980
Metal production	$69,556	$130,130
Net income (loss)	$ (5,526)	$ 11,179
Earnings (loss) per share	$(0.74)	$1.59

7. Income Taxes

(a) Income before income taxes

Income (loss) before income taxes is made up of the following components:

	Canadian	Foreign	Total
1981	$(7,367)	$ 702	$ (6,665)
1980	2,387	4,449	6,836
1979	(420)	17,470	17,050

(b) Income tax provision

The provision for income taxes (recovery) comprises:

	Canadian		Foreign	Total
	Current	Deferred	Current	Provision
1981	$(1,646)	$(1,496)	$ 565	$(2,577)
1980		495	2,541	3,036
1979	(259)	(477)	8,236	7,500

Deferred tax expense (recovery) results from timing differences in the recognition of revenue and expense for tax and financial statement purposes. The sources of these differences and the tax effect of each are as follows:

	1981	1980	1979
Excess of tax expenses over book			
Exploration and development	$ 500	$ 702	$(395)
Carrying charges	(462)		
Excess of book over tax depreciation	147	(355)	111
Accrued income taxable when received	(1,602)	120	66
Sundry	(79)	28	(259)
	$(1,496)	$ 495	$(477)

The income tax expense (recovery) differs from the amount which would result from applying the statutory Canadian income tax rate to the 1981 loss before income taxes of $6,665,000 (1980 income of $6,836,000; 1979 income of $17,050,000) for the following reasons:

	1981	1980	1979
Canadian income tax rate	51.8%	51.8%	49.75%
Tax (recovery) based on statutory income tax rate	$(3,451)	$3,541	$8,479
Expenses, not deductible	893		
Exempt dividend income	(570)	(577)	(120)
Loss (income) derived from investment in associated companies	515	(7)	37
Investment allowances — foreign	(394)	(303)	(210)
Difference between Canadian and foreign tax rates	(63)	(368)	(876)
Currency translation of financial statements of foreign subsidiaries	189	88	(196)
Timing differences not tax benefited	664	700	462
Mining tax (recovery)	(403)		
Sundry	43	(38)	(76)
	$(2,577)	$3,036	$7,500

8. Capital Stock and Contributed Surplus

(a) Issued capital stock and contributed surplus

		Amount	
	Number of shares	Capital stock	Contributed surplus
Balance, January 1, 1979 and 1980	6,891,699	$6,892	$ 6,849
Issued during year			
Stock options for cash	143,700	143	655
On acquisition of subsidiary at assigned value	110,000	110	1,375
Balance, December 31, 1980	7,145,399	7,145	8,879
Issued during year for cash			
Stock options	17,000	17	79
Private placement	600,000	600	3,600
Balance, December 31, 1981	7,762,399	$7,762	$12,558

(b) Stock option plan

Options granted and outstanding at December 31, 1981 under the Officers' and Employees' Stock Option Plan are as follows:

Year granted	Outstanding	Option price range per share	Year of expiry
1978	111,700	$5.62	1983
1979	40,600	$6.30-8.00	1984
1980	36,000	$9.45-13.05	1985
1981	35,000	$6.30-6.75	1986

At December 31, 1981 options on up to 256,100 shares may be granted until June 3, 1989 at prices not less than 90% of the closing prices for the Corporation's shares on The Toronto Stock Exchange on the date the options are granted.

(c) Other stock options

As part of a private placement during the year, an option was granted on 600,000 shares. This option is exercisable at $8.00 per share to July 30, 1983.

9. Segmented Information

(a) Geographic segments

	1981	1980	1979
Revenue from metal production			
Canada	$ 20,288		
Europe	7,338	$30,985	$58,864
	$ 27,626	$30,985	$58,864
Interest, dividends and sundry income			
Canada	$ 3,951	$ 5,827	$ 3,029
United States	2,244	26	
Europe	894	1,158	460
	$ 7,089	$ 7,011	$ 3,489
Segment profit (loss)			
Canada	$ (6,374)	$ 1,997	$ (1,578)
United States	1,002	(563)	(212)
Europe	(300)	5,394	18,915
	(5,672)	6,828	17,125
Equity in associated companies	(993)	8	(75)
Income (loss) before income taxes	(6,665)	6,836	17,050
Income taxes (recovery)	(2,577)	3,036	7,500
Net income (loss)	$ (4,088)	$ 3,800	$ 9,550
Identifiable assets			
Canada	$267,511	$53,209	$44,148
United States	4,984	1,672	243
Europe	6,961	14,875	24,425
Investment in associated companies	6,340	6,733	6,327
	$285,796	$76,489	$75,143

(b) Industry segments

Mining and exploration are the dominant operations and, as such, information segmented by industry is not applicable.

10. Commitment

During 1978 the Corporation entered into an agreement to participate in a five year program for the exploration and development of oil and gas involving expenditures at the rate of $3,000,000 per annum. Under certain circumstances the Corporation has the right to terminate this commitment.

11. Guarantees

(a) The Corporation has guaranteed the principal amount of US$3,600,000, together with the interest thereon, being part of an overrun facility in the principal amount of US$30,000,000 provided in connection with the senior financing arrangements of Tara Exploration and Development Company Limited's subsidiary, Tara Mines Limited.

(b) During 1981 the Corporation guaranteed a facility in the principal amount of Australian $1.5 million provided to its associated company, Whim Creek Consolidated N.L.

12. Pensions

The Corporation and its subsidiaries maintain pension plans covering salaried and hourly paid employees. Current service pension costs are charged to operations as they accrue. Past service pension costs are amortized over 15 years.

The following is the most recent benefit information available based on actuarial valuations completed for individual plans on December 31, 1980, April 14, 1981 and August 31, 1981:

Actuarial present value of vested accumulated plan benefits	$ 900,406
Actuarial present value of non-vested accumulated plan benefits	$3,183,517
Plan net assets available for benefits	$4,464,953
Assumed rate of return in determining the actuarial present value of accumulated plan benefits	6%

13. Comparative Figures

Certain comparative figures have been reclassified to conform with the financial statement presentation in 1981.

FIVE YEAR COMPARATIVE SUMMARY OF SELECTED FINANCIAL DATA

(expressed in thousands of Canadian dollars except for share data)

	1981	1980*	1979*	1978*	1977*
Revenue — metal production	$27,626	$30,985	$58,864	$13,651	$22,565
interest, dividends and sundry income	7,089	7,011	3,489	2,736	2,102
	34,715	37,996	62,353	16,387	24,667
Expenses — mining	25,260	23,478	36,405	11,576	18,019
administrative and general	3,598	2,364	2,576	1,243	1,545
depreciation and amortization	4,405	935	1,302	1,498	2,353
interest	4,301	—	—	—	—
	37,564	26,777	40,283	14,317	21,917
	(2,849)	11,219	22,070	2,070	2,750
Exploration	4,418	5,141	3,657	1,887	2,371
Equity in associated companies	993	(8)	75	225	217
Currency translation (gains) losses	(1,595)	(750)	1,288	23	(30)
Income (loss) before income taxes and extraordinary items	(6,665)	6,836	17,050	(65)	192
Income taxes (recovery)	(2,577)	3,036	7,500	(302)	543
Income (loss) before extraordinary items	(4,088)	3,800	9,550	237	(351)
Income tax credit	—	—	—	—	178
Net income (loss)	$(4,088)	$3,800	$9,550	$237	$(173)
Earnings (loss) per share					
Before extraordinary item	$(0.55)	$0.54	$1.39	$0.03	$(0.05)
Extraordinary item	—	—	—	—	0.025
Net income (loss) per share	$(0.55)	$0.54	$1.39	$0.03	$(0.025)
Dividend paid per share	—	—	—	—	US$0.250
Number of shares used in computing earnings per share (weighted average)	7,443,587	7,030,666	6,891,699	6,891,699	6,891,699

YEAR END FINANCIAL HIGHLIGHTS

(expressed in thousands of Canadian dollars)

	1981	1980	1979	1978	1977
Working capital	$12,682	$34,887	$31,643	$25,616	$28,217
Investments in associated and other companies (net)	49,589	20,700	19,583	17,761	17,013
Property, plant and equipment (net)	103,068	7,675	5,453	4,238	2,845
Deferred charges			252	431	628
Total assets	285,796	76,489	75,143	57,754	55,006
Total invested capital	165,339	63,262	56,931	48,046	48,703
Future and deferred income taxes	7,895	316	68	733	1,627
Long term debt	94,290				
Shareholders' equity	63,154	62,946	56,863	47,313	47,076
Shares outstanding	7,762,399	7,145,399	6,891,699	6,891,699	6,891,699
Share price high/low (during the year)	$11.88/$5.25	$17.00/$7.50	$12.00/$6.00	$7.75/$3.90	$6.62/$4.10

*Certain figures 1977 to 1980 have been restated.

Note: Refer to notes to consolidated financial statements for additional information.

SELECTED QUARTERLY FINANCIAL DATA

(expressed in thousands of Canadian dollars except for share data)

	1981 Quarter ended				1980* Quarter ended				1979* Quarter ended			
	March 31	June 30	Sept. 30	Dec. 31	March 31	June 30	Sept. 30	Dec. 31	March 31	June 30	Sept. 30	Dec. 31
Revenue —												
metal production	$1,832	$1,062	$ 7,495	$ 17,237	$12,641	$12,376	$3,726	$2,242	$10,059	$18,206	$14,975	$15,624
interest dividends and sundry income	$1,566	$2,111	$ 1,970	$ 1,442	$ 1,350	$ 1,935	$1,175	$2,551	$ 644	$ 777	$ 1,046	$ 1,022
Net income (loss)	$ 56	$ 567	$(1,021)	$ 3,690	$ 2,112	$ 1,396	$ 173	$ 119	$ 1,240	$ 4,037	$ 2,095	$ 2,178
Earnings (loss) per share												
Basic	$ 0.01	$ 0.08	$ (0.14)	$ (0.50)	$ 0.30	$ 0.20	$ 0.02	$ 0.02	$ 0.18	$ 0.59	$ 0.30	$ 0.32
Fully diluted	$ 0.01	$ 0.08	$ (0.14)	$ (0.50)	$ 0.30	$ 0.20	$ 0.02	$ 0.02	$ 0.18	$ 0.56	$ 0.29	$ 0.30

*Certain figures for 1979 and 1980 have been restated.

NORTHGATE PATINO MINES INC./MINES NORTHGATE PATINO INC.

A wholly owned Quebec subsidiary of Northgate Exploration Limited

P. O. BOX 8000
CHIBOUGAMAU
QUEBEC
G8P 2L1

BOARD OF DIRECTORS

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Sillery, Quebec
Retired Deputy Minister
Ministry of Natural Resources, Quebec

Sylvester P. Boland
Dublin, Ireland
Executive Vice President
Northgate Exploration Limited

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Chibougamau, Quebec
General Manager
Northgate Patino Mines Inc.

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Toronto, Ontario
Vice President of Operations
Northgate Exploration Limited

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Toronto, Ontario
Former President
Patino Mines (Quebec) Limited

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Montreal, Quebec
Partner Law Firm
Ogilvy Renault, Montreal

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Dublin, Ireland
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Mine Manager – Lemoine

D. Goffaux
Mine Manager – Copper Rand

R. Kanwar
Manager of Geology and Exploration

R. V. Broadhvest
Manager of Administrative Services

D. Tolgyesi
Production Manager – Portage

G. Ladouceur
Mill Superintendent – Copper Rand

C. Knight
Mill Superintendent – Lemoine

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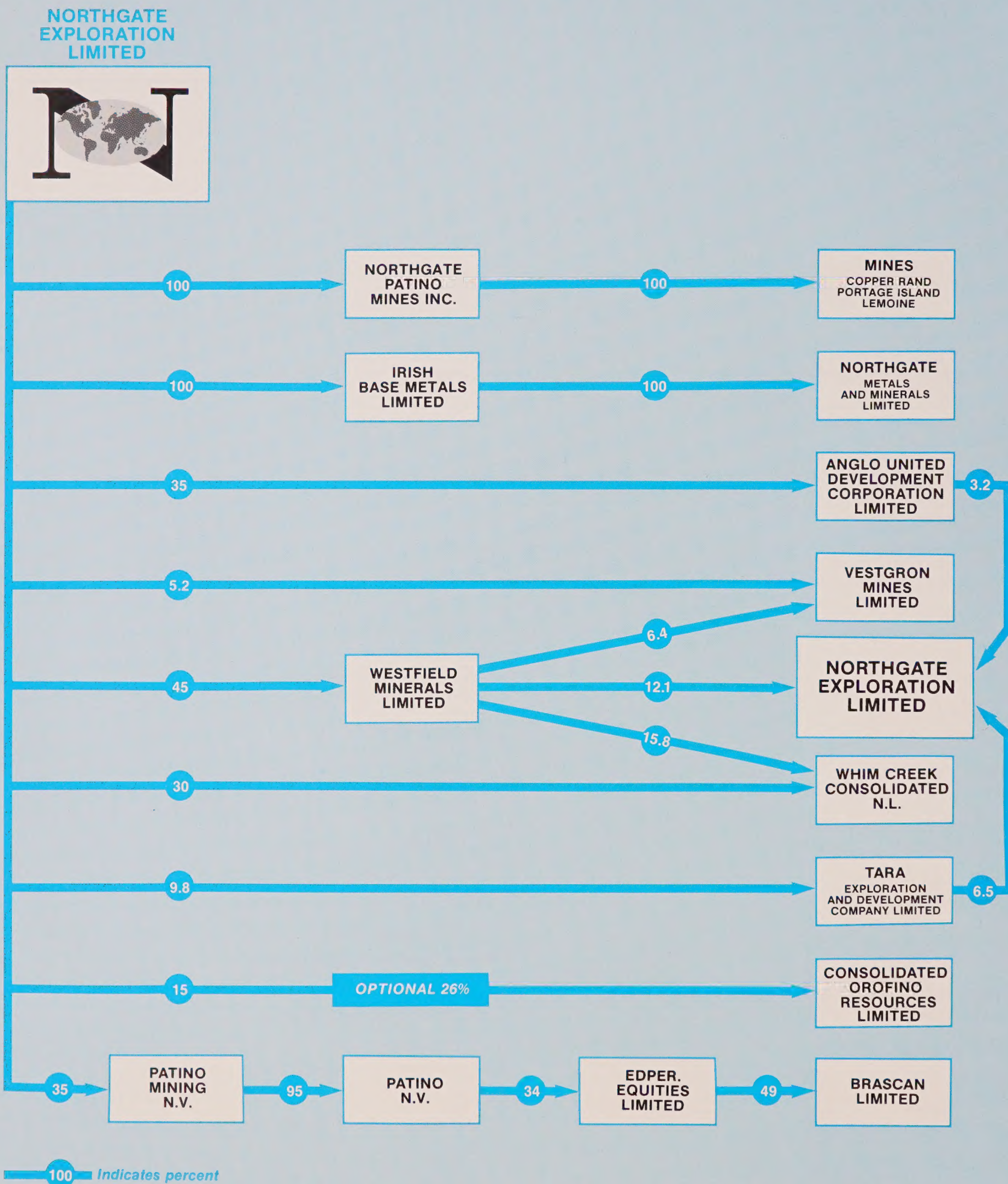

Executive and Head Office

Suite 3140, P.O. Box 143,
1 First Canadian Place,
Toronto, Ontario,
Canada, M5X 1C7
Telephone: (416) 362-6683
Telex: 06-217766

Mines Office

Northgate Patino Mines Inc.,
P.O. Box 8000,
Chibougamau, Quebec,
Canada, G8P 2L1
Telephone: (418) 748-4191
Telex: 05-746634

Oil and Gas

Mission Oil & Gas Ltd.,
Suite 1500, South Tower,
Sun Life Plaza,
Calgary, Alberta, T2P 3H4
Telephone: (403) 233-0134
Telex: 03-827824

Mission Resources, Inc.,
730 Mid-America Tower,
20 North Broadway,
Oklahoma City, Oklahoma,
U.S.A., 73102
Telephone: (405) 236-8189

Ireland

Irish Base Metals Limited,
162 Clontarf Road,
Dublin 3,
Ireland
Telephone: 332211
Telex: 500-25881

Mine Office,
Tynagh,
Loughrea,
County Galway,
Ireland
Telephone: Tynagh 214
Telex: 500-28335

Australia

Northgate (W.A.) Pty. Ltd.,
P.O. Box 144, 41-43 Ord Street,
West Perth, Western Australia 6005
Telephone: (09) 325-5855
Telex: AA93294

Exploration Offices

Toronto:
Suite 2725, P.O. Box 143,
1 First Canadian Place,
Toronto, Ontario, M5X 1C7
Telephone: (416) 362-6683

Timmins:
P.O. Box 1790,
107 Wilson Avenue,
Timmins, Ontario, P4N 2S8
Telephone: (705) 267-7946

Newfoundland:
P.O. Box 489,
167 Nicholsville Road,
Deer Lake, Newfoundland, A0K 2E1
Telephone: (709) 635-5228

Bankers

The Toronto-Dominion Bank,
Toronto, Canada

Allied Irish Banks Limited,
Dublin, Ireland

Morgan Guaranty Trust Company Limited,
New York, U.S.A.

Auditors

Thorne Riddell,
Toronto, Canada

Griffin, Lynch & Co.,
Dublin, Ireland

Lawyers

Fasken & Calvin,
Toronto, Canada

Dunnington, Bartholow & Miller,
New York, U.S.A.

Macleod Dixon,
Calgary, Canada

Whitney, Moore & Keller,
Dublin, Ireland

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Charter Consolidated Limited,
Ashford, Kent, England